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The Symptomatology of Diaphragmatic Pleurisy.

Arthur D. Dunn, M. D., Omaha.

It is one of the enigmas of medicine that an organ of such physiological import as the diaphragm should have been studied so little. Nature has paid more attention to this muscle than her students have, and has provided it with physiological properties which make it one of the most perfect of biological mechanisms. Lee (1) has recently shown that the diaphragm excels other striated muscle in oxygen content, in reducing power with oxyhemoglobin and methylene blue, in peroxidase content, in the working period in cool, dry air in absolute power, in power to summate stimuli, in tendency to rythmicity, in resistance to fatigue, in duration of survival after death, and in resistance to curare. Physicians have given but niggardly attention to this organ as a factor in morbid physiology. As common and important a condition from the standpoint of the day's work as diaphragmatic pleurisy has only recently been granted even an obscure corner in the bedside gallery of disease pictures with which the practitioner is expected to be familiar. In view of the frequency of diaphragmatic adhesions at autopsy it is strange that so little attention has been paid to the symptom producing possibilities of this type of pleurisy. It must be that we often fail to interpret correctly obscure pains in the lower thorax and upper abdomen.

Two Cases.

Case 1. Mrs. J., age 30, who had recently recovered from an attack of influenza, was taken ill suddenly with a "terrible" pain over the lower thorax laterally and posteriorly and over the upper abdomen, chiefly on the right side. The pain was so intense that repeated injections of morphine were required to make it endurable. Vomiting was at first present and annoying. The temperature varied from 99° to 102°. The leukocyte count was 14,000. A paroxysmal cough gave rise to exquisite suffering. Abdominal tenderness was most marked in the gall bladder region. Acute cholecystitis had been diagnosed on account of a history of previous "gall stone attacks." An examination made four days after the onset of the acute trouble revealed the following crucial points:

1. Attempts at deep inspiration produced lightning like contractions of the upper segments of the rectus muscles and excited paroxysms of coughing with exacerbations of pain.

2. Hyperalgesia to pressure was demonstrable

over the entire lower right thorax especially posteriorly at the level of the 10th dorsal spine and in the lumbar region. Tenderness to sharp pressure over the upper quadrants was marked but it was not proportionately increased by deep flat pressure. Marked hyperalgesia could be elicited by pinching the upper segment of the right rectus muscle, and by striking the right lumbar muscles. (Kidney sign).

3. There was moderate hyperalgesia of the right trapezius muscle. There was no tenderness along the phrenic nerve in the neck.

4. Physical examination of the chest revealed nothing but marked limitation of diaphragmatic excursion especially on the right side.

5. A mild icterus was present merely to make the diagnosis more difficult.

The diagnosis of diaphragmatic pleurisy was confirmed by the subsequent clinical course.

Case 2. C. R., a physician, 60 years old, was taken suddenly ill with agonizing pain in the precordium, radiating to the left shoulder, to the left hypochondrium, and to the left lumbar region. The least movement brought cries of pain from the patient. His most comfortable position was sitting up flexed at an angle of about 45 degrees from the perpendicular. Cough had not been noticed. He was convinced that he had angina pectoris and was about to die. The examination revealed hyperalgesia of the whole lower left thorax, upper abdomen, upper lumbar region and along the left trapezius anteriorly. Spasmodic contraction of the upper abdominal muscles on attempted deep inspiration was marked. The examination of the heart was negative and nothing abnormal was found in the lungs except diminished mobility and ventilation in the lower areas especially on the left. The temperature was 100° and the leukocyte count 10,000. A pleural friction rub developed a few days later. Recovery was complete in two weeks. This case illustrates how a keen physician and good observer may misinterpret the pain of diaphragmatic pleurisy even in himself.

The Symptoms.

In a broad sense, the symptoms of diaphragmatic pleurisy are pain of a character and distribution determined by the function and innervation of the diaphragm, by respiratory and circulatory disturbances arising from impaired diaphragm action, and by the general toxemic manifestations of infection. The symptomatology may be conveniently grouped as follows:

1. The Pain. All grades of severity occur. Diaphragmatic pleurisy furnishes some of the severest suffering that a human being is forced to endure or the physician to witness. The onset is usually stormy with intense pain which requires large doses of morphine to control. Symptoms of collapse are often present. In extensive lesions the pain area involves the lower thorax, the lumbar region, the upper abdomen and the neck. Both sides are often affected. The severity and distribution of the pain is determined by the acuteness of the onset and by the extent of the disease process. The pain is aggravated by respiration, by coughing, and by change of position. A sitting or semi-sitting position is assumed in severe cases in order to limit diaphragmatic excursion. The more limited the involved area, the more sharply demarcated is the pain area and the more likely is the condition to be operated upon for intra-abdominal disease to the chagrin of the surgeon or his advisors. Sharp abdominal and lumbar localizations cause most confusion. Pain in the neck occurs in involvement of the central portion of the diaphragm and is distributed along the anterior border of the trapezius muscle. An instructive case of central pneumonia with diaphragmatic involvement was one which for several days I considered to be rheumatism on account of the localization of the pain in the right shoulder. Later the pneumonia "came to the surface" and was accompanied by an herpetic eruption over the middle and outer third of the anterior border of the trapezius muscle — the cutaneous distribution of the fourth cervical segment. The pain, whether abdominal, or referred to the neck, is aggravated by deep inspiration, by movement, and by cough, although spontaneous cough may be so little in evidence as to escape observation.

2. The Tenderness. Hyperaesthesia and hyperalgesia are constant. The lower thorax is often exquisitely sensitive to touch or pressure and deep pressure over the intercostal muscles reveals muscle spasm and produces pain. Abdominal hyperalgesia and hyperaesthesia are common and a source of diagnostic trouble. In Capps (2) series of sixty-one cases at the Cook County Hospital, Chicago, abdominal conditions were at first diagnosed in twenty-one cases and eight purposeless laparatomies were performed: two for appendicitis, two for cholecystitis, one for ulcer of the stomach and one for liver abscess. (In the last five years, I have diverted eight cases of diaphragmatic pleurisy from surgicalization, which had been sent to the hospital for operation for supposed acute intra-abdominal lesions). **The abdominal pressure pain is superficial and its seat is in the abdominal wall.** Deep steady pressure with the flat surface of the fingers over abdominal organs suspected of trouble does not cause

the sharp muscle spasm pain characteristic of intra-abdominal disease.

The most intense pain may be elicited by pinching the skin or the muscles of the abdominal wall. The bouton diaphragmatique of Geunneau de Mussy which lies at the intersection of the projected parasternal line and a horizontal through the tip of the tenth rib is exceptionally observed when not part of the diffuse hyperaesthesia of the upper quadrants. Tender points in the neck along the border of the trapezius are as common as hyperalgesia along the phrenic nerve is rare. In Kelly & Weiss' (3) series of twenty-two cases the two most constant areas of tenderness were below the twelfth rib posteriorly on the affected side and along the ridge of the trapezius, although the patients did not always complain of spontaneous pain at these points. A careful analysis of the pain, its distribution and its modifying factors and a careful study of the hyperaesthesia and hyperalgesia will go far towards establishing a diagnosis.

3. The Diaphragm Phenomenon. Attempted deep inspiration is stopped by a lightning like spasmodic contraction of the upper segments of the rectus muscles. It often results in a paroxysm of coughing and in an increase of pain. In mild cases or in convalescents repeated efforts are often necessary to bring out this most typical of muscle spasms, which is probably the most reliable diagnostic point in the diagnosis of a diaphragmatic lesion.

4. The Respiratory Symptoms. Cough, expectoration, herpes, dyspnea and cyanosis are common. Any symptom suggestive of respiratory disease should suffice to arouse suspicions of a thoracic source of trouble, even in the presence of manifest abdominal symptoms.

5. Examination of the Lungs. The limitation of inspiratory movement and diminished ventilation of the lower lung areas should be emphasized. The absence of rales or friction rubs is conspicuous in the early stages. Suspected cases should be examined at repeated intervals as signs of consolidation often do not appear for several days when the pleurisy is associated with a central pneumonia. Such cases were not uncommon in the influenza epidemic in Omaha last winter. Signs of fluid have little but corroborative value, although I have seen cases of pleural and pericardial effusion in which the pain was confined entirely to the abdomen and lower thorax.

6. Miscellaneous Symptoms of Minor Import. Febrile manifestation and leucocytosis are of value only in supporting the hypothesis of infection. Hiccough is not a common symptom contrary to current belief. Vomiting, on the other hand, is common and tends to focus attention too closely on the abdomen. A striking symptom which occurred in one of my early cases, was intense pain and coughing on swallowing. The autopsy showed a diffuse diaphragmatitis with inflammation of both pleural and peritoneal surfaces. There was marked evidence of inflammation about the esophageal foramen.

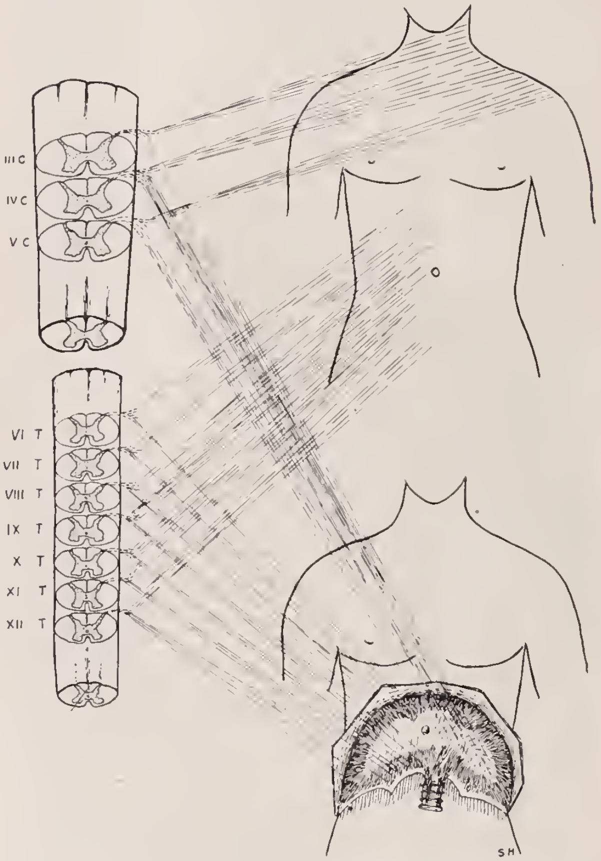
The diagnostic problem of diaphragmatic pleurisy becomes relatively simple when one visualizes the innervation of the diaphragm and studies its embryology. The pain in diaphragm disease follows the general principles underlying the production and distribution of visceral pain as laid down by Mackenzie (4) and Head. The sensory nerves of the skin and muscles have become educated to pain impressions. Visceral disturbances are reflected accurately to definite cutaneous areas where they are perceived as pain. One of the chief functions of the musculo-cutaneous coverings is their irritability to injurious stimuli with the production of pain and muscle suffering. Painful stimuli from a disturbed viscus are carried to the segments of the spinal cord directly associated with the viscus in question. Pain sensations are referred to the musculo-cutaneous periphery innervated by the sensory nerves of the disturbed spinal segments. The registration of painful stimuli arising from an affected viscus is a special function of the musculo-cutaneous tissues. These reflexes are termed viscero-sensory and viscero-motor as they affect the cutaneous or muscular coverings respectively. The following generalizations by Head (5) in regard to visceral pain are pertinent to the problem of diaphragmatic pain:

1. It is often remote from the site of irritation.
2. It follows lines in the skin of spiral segmentation rather than the course of the peripheral nerves.

3. It is usually associated with cutaneous hyperaesthesia and tenderness to pressure.

4. Often the pain fails to involve a whole segmental area of the skin but finds expression in one or more points of maximal tenderness and spontaneous pain.

Capps' (6) excellent work on the pleural pain sense and its distribution has gone far to clarify the problem of diphragmatic pain. He experimented by irritating the pleura with a wire introduced through a trocar or through drainage tubes in cases of effusion. His conclusions in regard to the diaphragmatic pleura in brief are as follows: The diaphragmatic pleura derives its sensory supply from two sources. The central portion is innervated by the phrenic nerve. A peripheral rim, two or three inches wide, anteriorly and laterally, and a segment corresponding to the posterior third of the membrane are innervated by sensory fibres from the last six intercostal nerves. Irritation of the periphery of the diaphragm gives rise to pain in the lower thorax, in the lumbar region and in the abdomen. The pain in the neck is a referred pain and is segmental. The pain from irritation of the peripheral portion of the diaphragm is a true referred pain and is usually segmental (Capps 6). The musculo-cutaneous areas supplied by the third, fourth and fifth (chiefly the fourth) cervical segments and by the last six spinal segments determine the location of diaphragmatic pain. In this connection, the embryology of the diaphragm is of moment. The diaphragm originally develops in the neck. It becomes separated from the infrahyoid muscles by the growth of the sternum and the change of position of the heart. It migrates into the thorax accompanied by the phrenic nerve and acquires secondary adhesions to the vertebral column (crura). The phrenic nerve finally divides into two branches, a ventral branch to the right and left ventro lateral parts (from the third and fourth cervical nerves), and a dorsal branch (from the fourth and fifth cervical nerves) to the right and left dorsal parts. (Keith 7). The diaphragm later comes into relationship with the septum transversum which develops the central portion, and with the rectus muscle sheet which develops the ventrolateral parts of the diaphragm, the interchondral muscles and the rectus abdominis. The dorsal parts of the diaphragm are formed from that part of the transversalis sheet of the body wall which forms the subvertebral musculation. This portion is developed in association with the quadratus lumborum muscles. In short **the peripheral portion of the diaphragm is developed in conjunction with muscular structures which are innervated by the lower dorsal segments, and the central or migratory portion is developed in association with the cervical segments which give origin to the phrenic nerve.**



The afferent fibers are shown coming from the central portion of the diaphragm to the third, fourth and fifth, cervical segments, chiefly the fourth, and from the periperal portion of the diaphragm to the sixth, seventh, eighth, ninth, tenth, eleventh and twelfth thoracic segments. The cutaneous areas of pain and hyperalgesia distribution are shown in the upper right hand figure.

Differential Diagnosis.

The differential diagnosis is as a rule not difficult if diaphragmatic possibilities are considered. The differential diagnosis of pneumonia (pleurisy) from appendicitis is so well known that few cases of acute trouble in the right lower quadrant fail of a chest examination. An adequate physical examination usually suffices to make the diagnosis because the so-called appendix area of the abdominal wall is innervated from those dorsal segments which receive part of their afferent fibres from the parts of the diaphragm contiguous to the parietal pleura. Inflammatory diseases in these parts furnish physical findings relatively early and reasonable care is all that is necessary to avoid error.

The differential diagnosis of diaphragmatic pleurisy with or without pneumonia from acute conditions in the right upper quadrant, such as gall bladder disease, perforating ulcer, acute pancreatitis, etc., is often difficult and one must weigh all of the detailed evidence furnished by a careful examination with attention to the diagnostic points which have been emphasized above. It is to be remembered that collapse, similar pain-distributions, and disturbed diaphragm function occur, although to a lesser degree, in both diaphragmatic pleurisy and in acute crises in the upper abdomen. An instance of the difficulties encountered in this differential was presented by a neurotic Hebrew who was under treatment in the hospital for diabetes and duodenal ulcer. He was seized suddenly with an intense pain in the right shoulder. Palpation and movement of the shoulder caused intense suffering. The interne discounted the patient's complaints and considered the trouble an acute arthritis. When I saw the patient five hours later he was in collapse. His respiration was of the short, grunting type and rapid; diaphragmatic excursion was much restricted; the patient could not be induced to take a deep breath and the upper abdomen and lower thorax were hyperalgesic and rigid. The absence of cough and of chest findings, the intense abdominal rigidity and above all the existence of a duodenal ulcer helped to establish the diagnosis of perforated duodenal ulcer. From the sharply localized pain in the right shoulder I ventured to state that the location of the base of this ulcer was on the cystic duct or neck of the gall bladder. A subsequent autopsy revealed a perforated chronic duodenal ulcer whose base lay in a small inflammatory mass involving the neck of the gall bladder and the cystic duct. Without a history in this case one would have been hard put to it to rule out a diaphragmatic pleurisy. I have seen pain in the lumbar region diagnosed as renal stone until subsequent events proved the contrary. A little care only is necessary to avoid this mistake. Lumbago, neuralgias, and myalgias also come in frequently for consideration in pain arising from disease of the diaphragm and its pleura.

Conclusion: In acute abdominal, lower thoracic, and lumbar pain, the diaphragm should not be forgotten.

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Contaminated and Infected Wounds—Principles of Treatment—With Addenda on Antiseptics and Terminology.*

David C. Hilton, M. D., Lincoln.

Principles vs. a Detail.

A new era has come in the treatment of infected wounds. A new surgical specialty is here. Who replies "There is no new surgery, merely another microbe killer," has the short range view point. He is absorbed in a mere detail and is unmindful of the underlying principles on which it rests. Fundamentally the newer treatment of infected wounds is not one of antiseptics, but rather of bacteriological and the surgical problems.

System of Treatment.

Few of the principles and methods of treatment herein set forth are distinctly new. The combination of these principles and methods, old and new, into a therapeutic system with a technique adapted thereto, having thoroughly modified our surgical methods; the clinical course and the results of treatment have forced the category of contaminated and infected wounds into a new surgical specialty. The one principle, that of bacteriological control, is new in general surgical practice. This principle is as a compass without which we are lost in a sea of difficulties. The results of treatment are decidedly new. Successfully applied it gets union in the wound by primary intention, and fibrous scar is disallowed. It is superiority of achievement in degree and in kind, that has opened the new era.

Training and Organization.

To surmount the difficulties of carrying on the treatment demands special training in surgery, bacteriology, antiseptics, nursing, and in organization, as well as patient industry to mobilize these coordinated branches into an effective therapeutic unit. Without special training and unit-control, failure awaits effort, and discredit, the surgeon and his staff.

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*Read before the Nebraska State Medical Association meeting, May 19-21, 1919.

Wound History.

This paper covers the treatment of the open wound. The periods in the history of such a wound harboring pathogenic organisms are:

(a) the period of contamination,
(b) the period of infection, and,
(c) the period of closure.

CONTAMINATED WOUNDS.

Principles of Treatment.

The principles of wound treatment in the pre-inflammatory period or the period of contamination are:

(a) Mechanical cleansing,
(b) closure, and
(c) immobilization.

For cases constitutionally and anatomically unsuited for perfect cleansing by mechanical means as for instance compound fractures, the principles applying are:

(a) approximate mechanical cleansing,
(b) chemical cleansing ("Prophylactic antisepsis of Lister"),
(c) closure, and
(d) immobilization.

Purpose.

The inclusive purpose of wound treatment during this period is to shorten the time of healing by:

(a) disallowing the formation of a culture medium for septic organisms in the wound, and
(b) disallowing gross scar with union by secondary intention. Thus the treatment is essentially prophylactic against infection and curative by inducing union of the wound by primary intention.

Bacteriogenesis.

Bacteriogenesis in the wound determines the time limit of contamination and the incidence of infection. The period of election for operating upon the contaminated wound is the first twelve hours following traumatism. The results of Policard's study of war wound bacteriology may be taken as average findings. They are as follows:

(a) At three hours after contamination. Shreds of clothing. Blood infiltration. Many leucocytes. No bacteria or polymorphonuclear leucocytes.
(b) At nine hours after contamination. Polymorphonuclear leucocytes prevalent. Tryptic digestion of the exudate. Dead lymphocytes. No bacteria.
(c) At twenty hours after contamination. Increased leucocytosis. Bacteria observed. Bacillus Welchii is the first to appear, showing in the wound at twelve hours.

Mechanical Cleansing.

Mechanical cleansing involves preparing for an operation as in aseptic work, in doing one piece cutting "debridement" with the removal of the entire wound surface to a depth of from three to ten millimeters, and then in changing instruments and gloves preliminary to aseptic closure. "Debridement" must be economic, having due respect for important structures to avoid increasing disability by operative trauma. Each important tissue receives necessary first aid repair, nerves are resected and sutured, tendons approximated, and vessels ligated. There should remain freely bleeding surfaces uncontaminated with soil by technical errors in the performance of the work. Failure is due to piecemeal dissection, to carelessness of asepsis, and to insuperable anatomical difficulties such as compound fractures, considerable loss of substance, or the "anfractuous" nature of the wound. To stain the surface with a dye such as brilliant green, is a valuable guide to accuracy in "debridement."

Closure.

Closure of the wound surgically follows "debridement." The wound may be closed by:

(a) Primary suture,
(b) Primary delayed suture, or by
(c) Secondary suture.

Primary suture is immediate closure by suture.

Primary delayed suture is immediate suture and delayed closure. The wound is lightly packed with gauze for a few days awaiting final judgment as to the cleanliness before tying the sutures.

Secondary suture is closing by delayed suture on or before the eighth day. Clean wounds closed before the eighth day heal without gross scar.

Results of Primary Suture.

As to the results of primary suture in contaminated war wounds after "debridement" Moynihan gives a fair statement for the British service, and the work of Pierre Duval and Lamaitre gives a good idea of what the French were enabled to accomplish. To quote from

Moynihan, "If the operation is carried out with scrupulous exactitude and with something near to technical perfection in cases of small "contamination" wounds where there is no loss of substance, probably not less than 80 per cent. will heal by first intention. The failure occurs in those cases where a piecemeal removal of the infected wall has been carried out, where, that is to say, there has been a frequent reinfection of the newly made raw surfaces." Pierre Duval, one of the cleverest operators of the French is said to have worked under ideal conditions as to equipment and personnel. Of his primary suture cases, ninety-two per cent. of the soft tissue wounds and fifty per cent. of the compound fracture cases healed by first intention. The average period of hospitalization for his primary suture cases was three weeks, and for his primary delayed suture cases about one week longer. On the service of R. Lamaitre at the Boulouse Evacuation Center, August 2, 1917, to February 3, 1918, there were one thousand and nine cases. Of these seventy-nine percent. were returned to duty during this period (including February). The average time of hospitalization was twenty-nine days. Eighty per cent. were cases of primary suture, nine per cent. were secondary suture. Lamaitre used only dry dressings—no antiseptic. Leriche advocates fixation of the wound surfaces with tincture of iodine after careful hemostasis.

Postoperative Course.

The usual postoperative course is characterized by the cessation of pain in the wound after twelve hours. Spontaneous pain and a rising pulse are the most reliable indications of undue closure. This circumstance should lead to an examination of the wound for tenderness away from the stitches and if progressive to their removal. Tenderness may be due to hematoma as well as to inflammation. The temperature may rise to 101 degrees for a few days. Without concomitant developments it should not cause alarm. To bury the end of a silkworm gut suture in the wound is good practice. At the end of twenty-four hours it may be removed and cultured. If a culture of virulent organisms discovered, more especially of an anaerobe or of streptococci, the stitches must be removed forthwith and the wound opened.

Rules of Practice.

Experience has shown that for primary closure to be safe and successful a few special rules must be obeyed in pursuing the general plan of treatment. Among them are the following:

(1) The surgeon must have continuous oversight of his cases for fifteen days after operation.
(2) Do no primary closure if the general condition of the patient is bad.
(3) Do no primary closure if doubtful of the primary cleansing being sufficient.
(4) Do no primary closure in ordinary or aggravated cases of compound fracture.
never use a director.
(6) Hemostasis must be so perfect that, hematoma will not form.
(7) Tension on the sutures is to be avoided. Vaucher by cultural methods sets forth the bacteriological situation as related to wound closure.

(a) If the wound is sterile it is safe to close.

(b) If the cultures show no anaerobes or streptococci, and only the commoner aerobes the closure is a safe condition.

(c) If the cultures in milk show anaerobes with or without aerobes but no streptococci, the local and general condition of the case must be watched closely as the clinical condition is the best guide in this instance for safety.

(d) If the cultures show both anaerobes and streptococci never close a wound. It is reasonable to suppose that the practical rules of wound closure from a bacteriological standpoint will be formulated for one section and another, and from time to time, according to the incidence and relative virulence of microorganisms producing wound infections.

Immobilization.

Immobilization to insure rest of the part by fixation by extension or otherwise, must obtain after thorough mechanical cleansing, reconstruction of the tissues, perfect hemostasis, and accurate coaptation without tension on the sutures. For bed cases, immobilization with posture to favor return circulation is best secured by an overhead suspension apparatus. The so-called "Balkan Frame" as constructed for the "War Demonstration Hospital of the Rockefeller Institute for Medical Research," New York City, and adopted by the War Department for the use of the army, is unexcelled for the purpose.

Chemical Cleansing.

Chemical cleansing in the contamination period of wound history is "prophylactic and therapeutic antisepsis." Many wounds incompletely cleansed by mechanical measures can be rendered "clinically sterile" by invoking this phase of chemical cleansing. Disinfection in this instance is staging a clean fight between organisms distributed over the wound surface and the antiseptic. In this period the victory is prone to be immediate and in favor of the host, whereas the reverse is true in the period of infection, wherein organisms are entrenched within the tissues and are disseminating themselves on the ebbing and flowing streams of blood and lymph. In the ordinary routine of surgical practice, the choice of antiseptics is determined by availability, stability, efficacy in vivo, and harmlessness to the tissues from a single application. In general the tincture of iodine fills these requirements well. To get the most effective action from iodine the wound surfaces must be dry. It precipitates in an aqueous medium as in blood and lymph, and weakens in antiseptic power. Its antiseptic power is greatest if the tissues are so dry that it will fix them.

INFECTED WOUNDS.

Principles of Treatment.

The principles of treatment in the inflammatory period or the period of infection are:

(a) mechanical cleansing,
(b) chemical cleansing (therapeutic antisepsis of Lister and other properties),
(c) immobilization,
(d) bacteriological control, and
(e) closure.

Purpose.

The inclusive purpose of treatment in the period of contamination, is to shorten the time of healing by:

(a) arresting all infective processes,
(b) "clinically sterilizing" the wound, and
(c) making surgical closure to get union by primary intention.

A notable feature is to abolish from the clinical history of the case, union by the slow, dirty and dangerous process of granulation and second intention, through superior surgery.

Application.

The application of these principles varies with the infective state of the wound whether it be that of

(a) gangrene,
(b) phelgmon, or of
(c) suppuration.

And it also varies with the type of organism whether it be

(a) aerobic or
(b) anaerobic.

Incidence of Infection.

Although extralimital to our subject, it is revelant here to discuss the question "When is a wound infected?" A definition of infection commonly promulgated among the profession is as follows: "Infection is incident to the implantation of organisms in the living tissues, and their multiplication." This definition though valid is half revealing and half concealing. It impresses the mind with the idea of the germ being the active agent, and of the tissues as being passive in the matter. It leaves the theory of infection germ-biased and tissue-blinded. To perceive when a wound is infected is to understand the tissue agencies at work in relation to traumatism and to the invading organism. When organisms are implanted in a wound they begin to die, as they do when first placed in an artificial culture medium. The tissues, the blood, and the sera are not favorable media for germ life, and definite chemical changes must have converted the leucocyte laden influx of serum from an inhospitable and hostile environment into a culture medium. Serum in the wound is antitryptic at first, and remains so until, with the breakdown of leucocytes, tryptic digestion of it into peptones supervenes. Not until this has occurred is there a receptive culture medium provided for infection to set up in the wound. The chemistry of the living body is such that bacterial invasions thrive only if tryptic digestion has converted the fluids and contused or necrosed parts into a favorable culture medium. A free flow of serum into the wound early after traumatism tends to inhibit the infective process. The salt treatment of Sir Almroth Wright induces a serum flow. A wound felting over with fibrin becomes "lymph bound" in the ordinary course of events and is highly favorable to rapid infection. The organisms that endure an unchanged serum best have been termed as a class "serophytes." They include among others, staphylococci and streptococci.

Suppurating Wounds.

1. Mechanical cleansing is the first principle to be applied. It takes into account the wound and the adjacent integument. The integument is always a carrier of infection, and from it the wound may be reinfected repeatedly unless sufficient devotion to cleansing it from the start is continued. Mechanical cleansing is applied in four particular ways. First, foreign bodies and gross tissue waste are removed, as for instance, sequestra of bone, sloughs, hematomata, and gangrenous tissues. These harbor the invading organisms, until cast off by natural processes or by artificial means. Second, all wound parts

are opened up to the end that liquid infectious waste may be discharged freely and promptly. That is, to make the wound relatively self cleansing by the establishment of drainage and of counter-drainage in proportion to the needs of the case. Third, unrestricted exposure of all wound surfaces is provided for intimate chemical contact, in order that chemical cleansing may effect "clinical sterilization" in the shortest possible time. Fourth, in the case of anaerobic infections no focus is left unexposed or viable. For the elimination of foreign bodies and of tissue outcast, and for drainage, the most radical work short of anatomic errors and overreaching constitutional limitations, makes for the most ideal cleansing, the shortening of hospitalization, and the conservation of life. Into the special surgery of the anaerobic infections, the limitation of our topic forbids entrance. In preparing the wound for chemical cleansing the surgeon uses a special technique. He must go further than the simple requirements of extraction, excision, and incision for drainage. The old way of operating anticipated healing by the slow, dirty process of granulation or of healing by secondary intention. The new way contemplates preparing the wound by a further step, in such a manner as to facilitate continuous chemical action on all wound surfaces, and to conclude healing by primary intention. To operate upon infected wounds for chemical sterilization requires the highest type of surgical skill guided by a new viewpoint, accompanied by a new technique and anticipated by a knowledge of the practical difficulties besetting the days or the weeks in which universal and continuous chemical contact must obtain in the wound. It is the refusal to appreciate that a new surgical specialty is here, and to anticipate the difficulties of infected wound sterilization that frequently leads to failure and brings the practice into disrepute.

2. Chemical cleansing in its antiseptic phase is therapeutic antiseptics in the infected wound as against prophylactic antiseptics in the contaminated wound. To carry chemical cleansing to the point of "clinical sterilization" and accomplish surgical closure and union by first intention is an ambitious undertaking beset with numerous pitfalls that only the specially trained surgeon and an organized force of helpers can circumvent, case by case. One has to recall the care, the skill and the organization of forces at his command in doing aseptic surgery to appreciate this in some measure. Furthermore, he has to win proficiency in this new work, to know by how narrow a margin success is won—by how much more skill and organization are sloughing, inflamed wounds made clean, than are aseptic wounds kept clean.

For the chemical sterilization of infected wounds, the antiseptic, the method, and the apparatus is to be studied and mastered.

The Antiseptic.

As to the antiseptic none has as yet been introduced which will cleanse the wound in a few applications. It must, therefore, be so thoroughly nontoxic at a uniform therapeutic potency that it can be repeated as long and as often as necessary with impunity. Also it must be efficient in vivo. It must be more than a bactericide or antiseptic. It must be a cleanser in the full meaning of the term. Wound disinfection ever awaits wound cleansing. Mechanical cleansing falls short in matters aside from bacterial contamination. More or less of solid or semi-solid exudated sloughs and shreds not removable by physical means are to be voided by chemical agency. The chemical cleanser must be a solvent so powerful as to constitute a chemical drain. It must complete the cleansing of the wound from the point at which mechanical methods have left it unfinished. The most invulnerable, the deepest and the last refuge about the wound for bacteria must be melted away. The mere bactericidal power of an antiseptic is only one phase of its activities in the wound. In fact, many substances acting antiseptically are not direct bactericides. The advantages and the disadvantages of any antiseptic agent have to be measured by its effects on the tissue cells, the sera, the blood, the discharge and the off-castings of disease, the by-products of bacterial growth, etc.

The Method.

As to the method, it must be standardized and be susceptible to close analysis, so that if the process of sterilization becomes stationary or retrogressive on a day, the fault can be located. It must provide for the delivery of the requisite amount of antiseptic to all wound surfaces in the desired strength, and with regularity which will render the wound sterile in the shortest possible time. It must also insure against deleterious side effects of treatment.

The Apparatus.

As to the apparatus, whatever is adopted must carry on with the method the essentials of treatment, and serve he fundamental of success.

Fundamentals in Antisepsis.

The fundamentals in the use of an antiseptic are:

(a) time,
(b) contact, and
(c) concentration.

If one considers the multiplicity of relationships between the three fundamentals of success and the three factors in chemical cleansing:

(a) the antiseptic,
(b) the method, and
(c) the apparatus—

it is to be observed that errors leading to failure are avoidable only through specialization in training and organization in personnel.

3. Immobilization of the affected part is a principle of treatment to be observed both in the period of chemical sterilization and of closure. Motion in the wound during the process of sterilization disseminates bacteria along sliding planes of tissue and with the ebb and flow of sero-cellular currents in and about the wound. It also disturbs dressings, disarranges the facilities for carrying on universal chemical contact of the antiseptic over all wound areas. These bad effects of motion apply particularly to wounds in joints, bones, aponeuroses, muscles, and the sheaths of nerves and vessels with their contents. During the process of repair by primary intention, after sterilization of the wound, immobilization is a prerequisite of success. Nothing tends more effectually to break down the healing process than neglect of preventing gross tissue movements. There is a balance of forces during repair, the one working for and the other against union. The wound is never made bacteriologically sterile. Infection is minimized to a degree that invites surgical closure with safety under favoring conditions. One of these conditions is immobilization. Rest to relieve inflammation and to promote healing is an old and much neglected principle of treatment. The full force of its benefits is nowhere better utilized than in the new surgery of contaminated and infected wounds. Some training in orthopedic methods of fixation and in the use of overhead extension and suspension devices proves to be requisite. However, it is the result and not the personal whim in obtaining immobilization that counts.

The general surgeon unlike the orthopedist is not a stickler for immobilization. He, with a class, breaks over to mobilization in season and out of season. Any surgeon to succeed in this work must leave all prejudices against immobilization behind or failure will be his portion. It is for these reasons, theoretical and practical, that the simple doctrine of immobilization is placed here as a principle of treatment.

4. Bacteriological control is an index of the relative infectivity of the wound. It is had by three processes:

(a) by the smear count,
(b) by cultures, and
(c) by measurements of the surface area of the wound.

Practically the smear counts are the routine indicators, and they are reliable guides after the first twenty-four hours following contamination of the wound. Cultures and measurements are adjuncts for selective use as occasion arises. Experience is requisite for accuracy in counting bacteria in a smear of wound secretion. Every unit of the organism counts for one, as for instance each coccus in chain formation and the pair in diplococcus. Intracellular bacteria are also counted as being viable. A smear is taken every 48 hours from the worst infected part of the wound and if it shows one bacterium in an average of five fields on two successive days, the wound may be safely closed. Some are closing wounds with a fair degree of success showing five bacteria per field providing the cultures are negative to streptococci and to anaerobes. No doubt bacteriological indications for wound closure will be found to vary with times, with regions and with circumstances, but the general basis for closures has been well founded on broad experience and thorough scientific research. The recorded and the charted data of bacteriological control display the infectivity of the wound and at a glance indicate the course of sterilization, whether progressive, retrogressive or stationary. This record faithfully kept and charted day by day is the surgeon's guide in all cases, and without it he is lost and progressive sterilization becomes a myth in his work.

5. Closure is surgical rather than expectant because the wound can be made ready far short of the time necessary for closure to be

effected by granulation. It is not conformable with the intent of the treatment to use chemical sterilization methods week in and week out, month in and month out, until the wound finally closes of its own accord. Such a consummation is ridiculous and rightly put the efforts to scorn. One should beware of masquerading a pretense of new surgery in the guise of antiseptics and appliances; the while adding heavily to the patient's expense and inconvenience, to deliver nothing in return except the old surgical results as heretofore. Results must be new in kind. Union by secondary intention must be forestalled. Closure by suture with primary union must supplant it, with a material shortening of the time of healing.

Phlegmon.

The principles to be carried out in thetreatment of phlegmonous inflammation are:

(a) limited mechanical cleansing,
(b) complete exposure, and
(c) chemical sterilization.

No extensive operation should be undertaken in a case of phlegmon. Thoroughgoing incisions multiple in character, laying open the entire phlegmonous area for the benefits of drainage and of chemical contact are indicated. The most radical surgery for the purpose of exposure, and the most limited surgery of a general operative type meets the crisis at hand best.

Gas Gangrene.

Gangrene is mentioned here for the purpose of classification only. It is beyond the purpose of this paper to review the treatment of special infectious diseases. The principles of treatment as mentioned under "suppurating wounds" obtain here, except that "closure" does not apply under any circumstances in the course of gangrene. A gangrene is never "clinically sterile" until it is unquestionably bacteriologically sterile.

Addendum on Antiseptics.

The new surgery of contaminated and infected wounds has developed in connection with "tryouts" of antiseptics, and close study of the problems connected with their successful use. When successfully employed, when wound healing was satisfactory, it has been presumed to be incident to therapeutic value in the antiseptic. In some instances this inference has been altogether wrong, and in others partially true. These successes have been due wholly or in part to a more intelligent and a more intensive application of the principles of surgery, of bacteriology, of physiology, and of nursing in their practical bearing on the treatment of infected wounds. The antiseptic in question has never been more than a contributing factor in the final outcome. However, it has been fully demonstrated that the antiseptic is often indispensible to the result. Those who propose to sterilize infected wounds without antiseptics may succeed in many cases, but not in all. Their failures will be the most convincing argument in favor of the intelligent application of the principle of "chemical cleansing". On the other hand those who anchor their hope of success in antiseptic treatment to a degree that blinds them to the necessity for thorough "mechanical cleansing" on a new surgical basis, will fall short of the most uniformly good results within their grasp. The ideal of the surgeon in this new field should be to make the utmost use of every great principle involved in the therapy and not to allow himself to be drawn from the main issue by pitting one principle against another to see how narrowly he may be able to escape impending disaster.

Requirements of Antiseptics.

The requirements of any antiseptic for progressive chemical cleansing are:

(a) antiseptic power,
(b) nontoxicity, and
(c) efficiency in vivo.

The older antiseptics fail in one or more of these particulars. To meet these requirements diligent research has been conducted and as a result many new antiseptics have been introduced into practice. Some of them have had a transitory popularity while others have come to stay. Among the newer antiseptics that have been well championed are:

Hypertonic salt solution accorded to Wright.
Salt ointment, 5%, accorded to Sargent;
Bismuth subcarbonate, iodoform, parrafin ointment, "Bipp" accorded to Morrison;
The flavine compounds, accorded to Browning;
Eusol, accorded to Edinberg; and
The chlorine group antiseptics, in the forms of
  (a) Dakin's solution, of sodium hyperchlorite,
  (b) chloramine T in neutral soap paste, and
  (c) dichloramine T in chlorinated liquid parafin, "chlorcasane," accorded to Dakin.

Dakin's Solution.

Of the new antiseptics, those of the chlorine group stand out as preeminently useful, and of them all, Dakin's solution deservedly ranks first. Its action on the wound is:

(a) antiseptic,
(b) solvent, and
(c) oxidizing.

It is also antitoxic to the toxins of Bacillus Welchii and possibly to the toxins of other organisms. It is superior as a chemical cleanser. It cleans the wound quickly of necrotic tissues and of sloughs, and cleans where others fail. Chloramine T and dichloramine T are to be preferred in ambulant cases where wounds are fairly free of necrotic elements, and superficial.

"Carrel-Dakin" Technique.

The "Carrel-Dakin" technique in the use of Dakin's solution is the criterion by which other methods of using it must be judged. The exhaustive researches and broad clinical experience of Carrel and Dakin and of their co-workers have established the value of Dakin's solution and standardized the technique of wound sterilization by it. This is so true that their methods will be the pattern for others to follow in the sterilization of infected wounds for some years to come. Their technique is a systematic effort to adapt every feature of instillation timing, of universal contact, and of chemical concentration to the progressive sterilization of wounds in the shortest possible time. The instillations are timed the same, day and night, for infection progresses as rapidly by night as by day. They are given at intervals of not more than two hours. The contact of all wound surfaces is effected by adapting the preliminary surgery to the requirements of the treatment to be followed by the appropriate use of apparatus, and by immobilization with the patient in bed. The concentration of Dakin's Solution when it reaches the surface to be sterilized is required to be the same as it is in the reservoir. To attempt to carry out the "Carrel-Dakin" treatment with the patient ambulant or with miscellaneous nursing and assistance is ridiculous.

Principles vs. Antiseptics.

"Chemical sterilization" is only one feature of the "Carrel-Dakin" treatment for it comprehends all of the other principles of the new surgery of contaminated and infected wounds as set forth by numerous surgeons and set into practice by each in his own way. Antiseptics may come and go, methods and technique may be revolutionized or discarded altogether, but the principles of the new surgery of contaminated and infected wounds will abide and with them a better future for the affected.

ADDENDUM ON TERMINOLOGY.

Principles.

The principles of treatment are variously grouped. There is a tendency to place them under two heads, (1) surgical methods and (2) progressive chemical sterilization. But this is in reality a grouping of the methods of procedure. It is not a statement of the principles underlying those methods.

Surgical Methods and Principles.

Surgical methods are invoked with the application of all of the principles except with that of bacteriological control. Mechanical cleansing is effected by methods that are both surgical and otherwise. They are in part operative, in part common manual such as any intelligent person can apply, and in part physiological as by free bleeding and the early exudation of serum into the wound. Immobilization introduces the methods of orthopedic surgery. Chemical cleansing appeals to a special surgical knowledge and skill as a preliminary. Closure in this line of treatment always refers to surgical closure with the removal of any scar tissue that may have grown into the wound.

Chemical Cleansing and Sterilization.

The term "Progressive chemical sterilization" is not an equivalent for the principle of progressive chemical cleansing. The word "sterilization" calls attention only to the antiseptic power of the cleanser. As pointed out the cleanser must be more than an antiseptic. It is called on to finish the cleansing of the wound from sloughs, necrotic tissue, etc., which mechanical methods leave incomplete.

Immobilization.

Immobilization is a principle as well as a method of treatment. It is here placed among the principles of treatment by right of being a unique and indispensible element of success, and of being applied for reasons fundamentally different from those attaching to the other principles.

Organo-Therapy in Gynecology.*

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The province of this paper will embrace but a few of the more definite gynecological conditions wherein the relation of a disturbance to a malfunctioning internal secretory system appears to be a contributing factor.

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*Read before the Lancaster County Medical Society, Oct. 4, 1919.

During the last decade our knowledge of the measures available for the treatment of gynecological diseases and the relief of symptoms has become more scientific and therefore more definite in its application.

Our ideas of gynecology have not only undergone profound modification but new fields of work have opened for us, new sources of treatment which appear to hold forth great promise in results.

In no field of medicine are we so impressed with the need of rational, conservative treatment as we are in the female genital disorders. There is an absolute need for knowledge of the relation of normal and pathologic genital functions to the general physical and psychic health of the woman. The woman is of a make up peculiar unto herself, her anatomy is different, her predisposition, emotions, marital relations and mental perturbations are all laws unto the individual woman and have a very potent bearing on her condition and treatment.

For the smooth running of the human economy nature has endowed it with definite internal secretions. These definite secretions play a very important role in the development and metabolism of woman from a few years before puberty to a few years after menopause.

If these secretory glands are normal in action the development and maturity of the woman are normal and later on as she approaches the climacteric if their rhythm has been unchanged she passes through it uneventfully.

We are all aware that there is a distinct difference in the shape of the male and female pelvis. Certain developmental stimuli produced by interrelated thyroid and pituitary action enhanced at puberty by a secretion from the ovary or testis are responsible for this difference. Consider for a moment the girl at the age of puberty, abnormally slow in developing, her menstruation is absent or greatly divergent from the normal, a noticeable failure of pubic and axillary hair development, the pelvic bones resembling more that of the male than the female type with more or less nervous phenomena and anemia superimposed. We are prone to believe here that we are dealing with an entire absence or at least an insufficiency of the ovarian secretion. These cases are usually benefitted by the administration of corpus luteum extract either alone or with the whole thyroid gland in dosage varying with the tolerance and degree of abnormality existing.

We now come to the phenomena of menstruation. It is a well established fact that here again the ovary, pituitary and thyroid play a combined role with the ovaries presiding. If there is a deficiency or an over secretion of any of these three thus upsetting our interglandular balance at this time we will be confronted with a very interesting menstrual nervous symptomatology preceding some menstrual abnormality.

Undoubtedly we have all been confronted at various times with some phase of this premenstrual nervous phenomena, the woman who complains of fullness in her breasts, or pain or discomfort in her pelvic region, the woman irritable to a degree bordering on a slight mania, the deeply depressed suggesting a manic depressive insanity or a dementia precox of a mild type, those with severe headaches, nausea or vomiting, those with a definite obsession or more often those who are "just nervous and want to cry." When we see a manifestation of some phase of such nervous instability and following closely in its wake a dysmenorrhea, menorrhagia, or a relative or actual amenorrhea it is only fair to consider that we are dealing with an unbalanced interglandular relationship and treat it as such. It is not contended that there are no mechanical causes for these various forms of menstrual disturbances. There are and surgery should be instituted. Organotherapy however, in conjunction with surgical intervention when necessary is the proper procedure.

While the results obtained in this class with disturbed menses are on the whole not remarkable, yet in the control of nervous symptoms, in the treatment of functional amenorrhea and the control of constitutional dysmenorrhea we have at our disposal a very excellent remedy in corpus luteum extract administered in five grain doses t. i. d. beginning about ten days before the regular or expected time of the menstrual period, pushed if necessary to twenty-five or thirty grains per day. No toxic effects have been observed from such usage. As a rule it is not immediate in its effect, rather it seems to be cumulative and we should not be too hasty in discarding it should it appear unproductive of immediate good results.

Now a word about organotherapy in its relation to the pregnant woman. When pregnancy occurs menstruation as a rule ceases. Concerning the theories as to why pregnancy is characterized by amenorrhea you may accept any one you like. However, suffice it to say there is an inhibitory element, probably placental, introduced between the normal menstrual stimuli and menstruation. This new element or some product of it (placental secretion) antagonize the pluriglandular relationship and as a result of this instability the woman reacts by those manifest nervous symptoms of nausea and vomiting so common to early pregnancy. When in the course of a few weeks this new interglandular relationship becomes stabilized vomiting ceases and the woman continues content in her new physiology. Not infrequently though we see this instability fail to right itself, vomiting may continue until it becomes dangerous, toxemia or even eclampsia may supervene, the woman may abort, hysteria in an extreme degree or a mania may assert itself. What does this all mean? Does the trouble lie on the side of her newly forming placental substance or on the side of her interglandular apparatus? I have controlled severe vomiting of pregnancy with corpus luteum in certain cases while in the very next case a decided aggravation of the symptoms would follow the administration of the remedy. Here dessicated placental tissue has proven of benefit.

Experimental work, especially that of Frankel has thrown some light on the habitual unexplained abortion of early pregnancy. He contends for an absence of lutein secretion and an over active pituitary. This he combats by giving corpus luteum plus thyroid. Definite conclusions can be drawn only after an extensive trial.

We now come to the menopausal state—either natural, artificial or premature. There is no doubt but that corpus luteum therapy plays a most important part in the neuroses attendant upon the menopause. In about 90% of these cases the hot and cold flushes, the extreme irritability, the nervousness and other manifestations can be relieved or greatly improved by the administration of this remedy. Occasionally a patient will be met who will show no improvement. The reason for this is not evident. None the less satisfactory is the use of corpus luteum extract in those cases following hysterectomy or oophorectomy. To my mind it is a necessary adjunct to the treatment of such cases.

In conclusion the subject may be summed up by the statement that the phenomena of a great many of our heretofore obscure gynecological disturbances seem to be the result of an unbalanced interglandular complex.

Stabilization of the balance can in many instances be brought about by organotherapy. While this subject as a whole is indefinite and the therapy somewhat empirical yet when we grant the possibility of an interglandular upset or at least a glandular deficiency being a factor in the etiology of many gynecological disorders, the patient is entitled to the benefit of any remedial agent offering possible or probable results.

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Malignant Sarcomas.*

Report of Two Interesting Cases.

Max Emmert, M. D., Omaha.

The general group of sarcomas is so large and the individual types vary so much with respect to malignancy that I shall confine this paper to a general consideration of the most malignant types, the early recognition of which is of vital importance to the patient.

Sarcoma is a malignant tumor composed of cells of the connective tissue type. This definition which is promulgated by Ewing suffices for practical purposes, but over-rides the embryological origin in some respects. Moreover the well-known metamorphosis of cells renders it difficult to always trace neoplastic tissue to the parent cell.

Sarcoma is usually present as a single tumor, but multiple forms may arise in the bone marrow, nerve trunks and skin. The angio-sarcomas, lympho-sarcomas and myeloma are frequently multiple.

In the early stages sarcoma is not primarily an infiltrating tumor, but is expansive in its manner of growth, thereby differing from carcinoma. It expands upon a scaffolding of new blood vessels, the walls of which are composed of a single layer of endothelial cells. The rapid growth of these sarcomas can be attributed partially, at least, to the great vascularity and abundant nourishment to the sarcomatous cells which in turn stimulate the production of more blood vessels.

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*Read before the Douglas County Medical Society, Nov. 26, 1919.

When the sarcoma has reached a certain stage the extensive circulation fails, infarction of the vessels occurs, which is followed by necrosis and gangrene of the tumor tissue and the continued growth of the neoplasm depends upon its ability to infiltrate the surrounding tissue or upon metastasis. During the stage of necrosis the degenerated tissue is very susceptible to infection and may be followed by a general sepsis.

Sarcoma shows an early tendency to metastasize through the blood stream. Lymphosarcoma being the only type which extends along the lymphatic vessels. The metastatic cells lodge in the lungs. This is true of sarcoma in all parts of the body, except the region drained by the portal system which carries the sarcomatous cells to the liver where they reproduce the neoplasm. Sarcoma cells also extend along muscle sheaths, planes of fascia, vessels and nerves, which fact is important in the consideration of therapeutic measures.

From a clinical standpoint, trauma bears an important relationship to sarcoma. Several years ago Coley, in a report of seventy cases of sarcoma, was able to secure a definite history of injury in forty cases or 57 plus per cent. The trauma in the majority of cases is a single injury, as a severe blow, thus differing from that of carcinoma, which usually occurs in regions subjected to repeated irritations.

There are three physical factors which are more or less characteristic of malignant sarcomas. They are bulky, soft and vascular. These factors result from the very rapid growth of the neoplasm, which is the chief diagnostic sign of this form of tumor.

The next diagnostic sign of importance is the absence of pain or tenderness in the early stage of the primary growth. It may therefore be stated that sarcoma is a painless growth. This is true in uncomplicated forms, but when complicated by infection it will be more or less tender. When metastasis occurs in regions, where there is little loose connective tissue, there may be present both tenderness and pain in the early stages, due probably to pressure on the adjacent structures. However, this apparent inflammatory reaction soon subsides, leaving the painless tumor.

Another diagnostic factor of importance in some of these malignant types is their resemblance to an inflammatory reaction. The tumor, if near the surface, may present an erythematous aspect with rather sharply defined margins. This is present when the skin is involved and is due to the vascularity of the neoplasm.

On palpation the consistency varies from a semi-fluctuating sensation to that of a firm induration depending upon the vascularity. In fact the vascularity may be so marked that a pulsation is noted.

Frequently in the mixed types a nodular condition interpersed with fluctuating areas may be found. When the solid tumor is associated with erythema, fever and leucocytosis, which frequently accompany sarcoma, it very closely resembles an inflammatory reaction. It is this class of sarcoma in which we must depend upon the absence of tenderness and pain to make a diagnosis.

In this connection I wish to report two interesting cases of sarcoma.

Miss G. T., aged 24, was referred to me July 14, 1917, complaining of a lump in her thigh. There was no family history of tumors or cancers.

Seven years prior to this date there had been removed from the lateral surface of the left leg a tumor the size of a pigeon's egg. At the time of removal, this tumor had been present, without pain, for six months.

For the past two years the patient has suffered from exophthalmic goitre, for which she has been treated.

Her present illness dated from July 4, 1917, ten days prior to examination, when she accidentally discovered a mass on the posterior surface of the right thigh. It was not tender or painful until she received an osteopathic treatment after which she noted a little pain in the mass.

Examination revealed a fairly well nourished young woman, with a moderated degree of exophthalmos. The pulse rate was 120, systolic pressure 115, and diastolic 95. The thorax was negative, the heart revealing no physical signs of degeneration. Abdomen was negative. Vaginal examination, negative. No glandular enlargements.

On the posterior surface of the right thigh midway between the trochanter and the popliteal space was a mass about the size of a large orange, causing a marked elevation of the skin, which was normal in appearance and freely movable. The mass was firm to the touch and firmly fixed to the deep structures of the thigh.

The lower margin of the tumor was slightly nodular.

A clinical diagnosis of sarcoma was made and operation advised. After several days of treatment directed to the thyroid trouble, the patient was operated upon on July 20, sixteen days after the discovery of the tumor.

Upon separating the biceps and semitendinosus muscles, the mass was exposed. The sciatic nerve was spread out over the surface of the tumor. The neoplasm was shelled out without difficulty and the incision closed.

Clinical examination of the tumor revealed an oval mass weighing nine ounces. It was 13 cm. in length and 8½ cm. in breadth. The circumference in the longest diameter was 30 cm. and in the transverse 21 cm.

The tumor was greyish-white in color, with an irregular outline and smooth surface. It was very firm in consistency, and surrounded by a well-developed capsule, which stripped easily from the tumor, leaving a smooth glossy surface. The tumor cut with resistance and exposed a smooth homogeneous surface which bulged slightly. The color was yellowish-white with several areas of punctate hemorrhages. At the upper pole was a cavity containing about a dram of serous fluid and a recent blood clot. About the center of the mass was a sulcus, one-half inch deep, into which the capsule dipped. From a gross pathological examination this tumor was benign. The pathological report was: "Simple fibroma with large connective tissue cells."

The patient left the hospital on the twelfth day with the wound healed, but slight induration along the scar.

Six weeks after leaving the hospital a streptococcus infection started in the scar and spread over the entire leg and thigh. This subsided in two weeks. One week later there developed rapidly on the median surface of the left ankle a tender inflammatory mass which was thought to result from the recent infection. This persisted for several weeks and then the inflammatory condition subsided, leaving a firm mass which was recognized as a sarcoma. Operation was advised and refused until Dec. 12, 1917. At this time there were no signs of recurrence at the site of the previous operation.

Upon incision the first mass encountered was about the size of a pigeon's egg, which was easily enucleated. Over this in the form of a capsule covering one-third of the aforementioned mass was another tumor of similar structure, but firmly attached to the adjacent tissue. Behind these tumors and intimately associated with the posterior tibial vessels and nerves were a number of small masses of similar structure. Gross examination of the largest of the masses removed revealed the following data:

"The specimen has the same appearance and consistency as the mass removed from the thigh July 20th. The capsule is not so well developed and at one point on the posterior surface the tumor had evidently broken through the capsule." From a clinical viewpoint this tumor was definitely malignant.

Pathological diagnosis: Fibro myxo-spindle and round-cell sarcoma.

Patient returned home on the eighth day.

On Feb. 28, 1918, the patient returned complaining of pain in the right groin, which had been present for three weeks. This pain was more severe when she was on her feet. Examination disclosed a slight tenderness in the right ovarian region and a hard, tender, and freely movable nodule about the size of a hazel nut in the upper third of the left labium majus.

The tissue underlying the scar on the left ankle was firm and nodular. The scar on the right thigh was free from any signs of recurrence.

The patient was referred to a roentgenologist and treated for two months without beneficial results. In July or August of 1918 she consulted a socalled cancer specialist in Missouri and died shortly after.

This case offers many interesting points for consideration, but time does not permit a detailed discussion of them. Suffice it to say that the tumor, removed from the thigh, and diagnosed as benign from both a clinical and pathological point of view, proved to be a very malignant type of sarcoma.

The next case which I wish to report is that of Baby C., aged two months, who was referred to me May 2, 1919. There was nothing in the family history indicating similar trouble. The mother had given birth to six normal children, and the birth of this child was normal.

At the time of birth a mass the size of a pigeon's egg was noticed on the thoracic wall. This mass had remained quiescent until one week before admission to the hospital, at which time it began to increase rapidly in size. Three days prior to admission the attending physician had aspirated the mass and obtained a little serous fluid. The following day he had incised it without obtaining fluid.

Examination revealed a rather weak, anaemic-looking baby, with a slight elevation of temperature. On the right lower thoracic wall in the anterior axillary line was a mass the size of a lemon. The summit of this mass was of a dull reddish color, which faded towards the periphery where the skin was normal in appearance. The wound of the previous incision was one-half inch long and slightly gaping, revealing a beefy-red tissue. The skin in the central portion was adherent to the mass, but freely movable towards the periphery. The entire mass was movable upon the underlying tissue. In consistency the mass was semi-fluctuating with nodular areas of firmer consistency.

A diagnosis of sarcoma was made and operation advised. On May 8th the mass was excised with an area of skin about 2x3 inches in diameter.

Pathological report verbatim:

"The specimen consists of tissue 6 cm. in length, 4 cm. in width. Upon transverse incision the tissue underlying the skin has a spongy appearance, being divided into spaces by trabecular-like material.

"Microscopial examination of the tissue shows it to be rich in spindle-cells, and small round-cells. There are a number of small capillary blood vessels, particularly in sections from the smaller piece of tissue that accompanied the larger tumor mass.

"Diagnosis: Fibro-myxo-sarcoma."

Post operative: The day following the operation X-ray treatment was started and continued daily for two weeks. Three weeks later the baby was returned to Omaha and treated daily for one week.

About a month or six weeks later he was returned for a similar treatment.

At the present time there is no sign of recurrence or metastasis, and the baby is a very healthy looking boy. However, we can not claim a cure for at least one year.

Sarcoma of all types is a surgical disease and should be treated as such. I believe the best method of handling these cases is by a combined treatment with X-ray and surgery. If possible to use the intensive ray for one week prior to operation and a thorough ray treatment after the operation, our results will be better.

The ray by its power to contract tissue and produce a fibrosis will retard the growth of the neoplasm. Moreover there is a possibility that it destroys the small groups of wandering neoplastic cells, and thereby aids in the prevention of metastasis.

Abdominal sarcoma which often responds in a remarkable manner to the ray, should be removed by surgery as soon as it reaches the stationary stage, as the majority of them may remain quiescent for a short time and then start to develop again. It is a well known fact that during this stage of recrudescence they do not respond to the ray treatment. The ray treatment should include the surrounding tissue and especially the lungs. Often a careful ray examination of the lungs will demonstrate the futility of any surgical procedure, and thereby save the patient from an operation which can offer no hope of relief.

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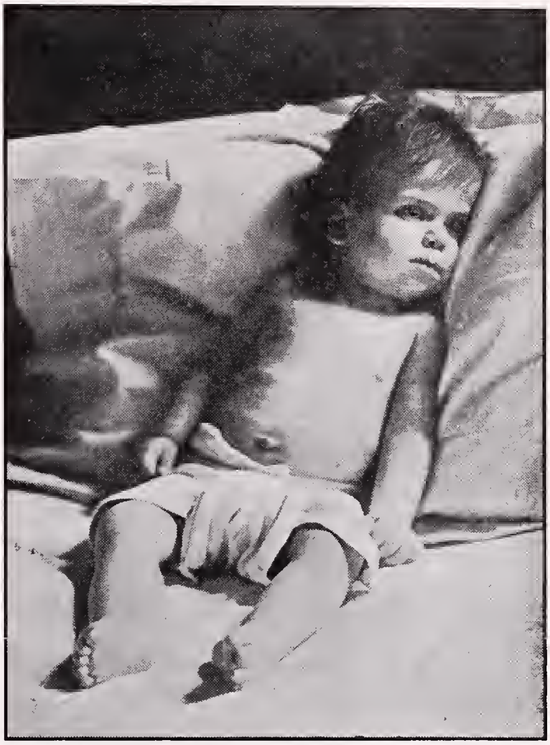
Amaurotic Idiocy.

Floyd Clarke, M. D., Omaha.

General and Historical Review With Report of Case.

Evidently the first physician to recognize this disease and describe it as a definite clinical entity was Warren Tay—an ophthalmologist—whose original article appeared in 1881 and was entitled "Symmetrical changes in the region of the yellow spot in each eye of an infant." About one hundred cases have been described in the literature. B. Sachs in 1884 published his observations in a paper entitled, "Arrested Cerebral Development." The name Amaurotic family idiocy was first proposed by Sachs in 1896. The condition has at times been called "Sachs' Disease." This has been brought about by the able description of the disease which has appeared in the literature from time to time by Dr. Sachs.



Dr. Sachs groups the symptoms under the following:

1. Mental impairment in first few months of life, leading to absolute idiocy.

2. Paresis or paralysis of the greater part of the body flaccid or spastic in type.

3. Reflexes may be deficient or increased.

4. A diminution of the vision terminating in absolute blindness. (Changes in the macula lutea and later an optic nerve atrophy).

5. Marasmus and a fatal termination about the second year.

6. The occurrence of the affection in several members of the same family.

7. Healthy at birth, remaining so up to third or fifth month, and occasionally.

8. Nystagmus.

9. Strabismus.

10. Hyperactivity of hearing.

11. Inordinate laughter present in one case and,

12. Disturbances in deglutition were occasionally observed in others.

Amaurotic family idiocy is not a common

disease. Its cause is unknown. It occurs almost uniformly among the Hebrews, showing a peculiar tendency to afflict two or more children in the same family.

Pathologically the characteristic changes are to be found in the cells of the central nervous system. The ganglion cells are swollen, the protoplasm undifferentiated. The nuclei show degenerative changes and are demonstrated with difficulty. Often a normal ganglion cell is not to be found either in the cortex or the gray matter of the cord.

Spiller comments on the fact that no one has been able to make a thorough microscopic study of the early degeneration of amaurotic family idiocy. In those cases in which a microscopic study has been made, the disease has reached its full development. If one were able to study the primary degenerative process in the cells, some light might be thrown on the etiology of the disease. He does not accept the theory that it is a toxic disease. Sachs assumes that there is at birth in these infants a maldevelopment of the ganglion cells of the central nervous system, and because of this maldevelopment they cannot exist normally beyond the first four months of extra uterine life, and they then begin to show evidence of degeneration.

F. J. Poynton, J. H. Parsons and Gordon Holmes come to the following conclusions regarding the etiology:

1. It is not due to arrested development, because if so the clinical symptoms of the disease would be present at birth.

2. The disease is not due to bacterial toxins.

The clinical facts also argue against this theory, its family nature, its occurrence in the Jewish race and constant appearance within certain short period of life.

3. The disease is due to some inherent biochemical property of the protoplasm of the cell as result of which it undergoes certain changes which result in its degeneration and thus in degeneration of the parts of the neurones, the normal existence of which is dependent upon it.

Report of Case.

A. P., age 15 months. Family history: Mother living and well. Father living and well. One sister died 2½ years old. "Nerve centers not developed." Mental capacity of small infant similar to patient's condition.

Mother and father are second cousins. Hebrew race. One grand aunt married to first cousin. They have three children, all living and well. Maternal grandmother had headaches and neuralgia. Labor at the time of patient's birth was normal as to duration, but instruments were used.

Past history: No previous illness till about one year of age, when had influenza, recovering completely.

Was breast fed till about 5 months old—later part breast and cow's milk, at regular times and specific amount. At 8 months began on cereals, broths and toast with cow's milk. Appetite always good. No nausea. No vomiting.

Present illness: Is unable to sit up. Has never assumed sitting posture. Has never walked or talked. Has never shown any amount of interest in surroundings. Does not seem to notice objects. Is unable to hold objects when placed in his hands. No desire to play with toys. Seems interested in noises, especially piano. Will become quite interested and animated at the sound of a whistle. After about the third month could no longer hold up its head. This has become more marked till the head literally flops backward or to either side when infant is picked up.

The patient was admitted to Clarkson Hospital and remained there for about three weeks. On admission the weight was 22 pounds 1½ oz. His flesh was soft and flabby. Musculature flaccid and underdeveloped for an infant of his age. Fontanelle still open and of greater diameter than normal. The head was particularly large, somewhat square shaped, being larger in its antero-posterior diameter than normal. The patellar reflexes were present. Physical examination was negative. A Wassermann reaction of both the blood and spinal fluid by Dr. M. G. Wohl proved negative. The leucocytes were not increased. Examination of the urine proved negative. Examination of the eyes by Dr. Jas. M. Patton was as follows:

> Poorly nourished patient. Eyes partly closed but able to open them normally. Extra-ocular movements apparently normal. Pupillary reaction sluggish or doubtful. Light perception doubtful. Ophthalmoscopic examination, aqueous, lens and vitreous clear. The general retina was dark. Both arteries and veins possibly slightly reduced in caliber. Discs light but not distinctly atrophic. Entire central retinal region in both eyes lightly gray in color with bright red spot at macula. Fundus practically the same in each eye and corresponding perfectly to the descriptions given by the various observers of this rather interesting condition.

At present the baby is now about 20 months old, and is steadily growing worse—a fatal outcome is to be expected.

I am indebted to Miss Hallie Wilson, Librarian at the University of Nebraska, for her assistance in reviewing the literature.

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Further Observations on Acriflavine in Gonorrhea.*

Edwin G. Davis, M. D., Omaha.

A previous publication (Davis and Harrell[1]) has called attention to certain laboratory-demonstrated properties possessed by acriflavine which justify a thorough clinical trial of this drug in the treatment of gonorrheal urethritis. These properties were discovered during the course of an investigation of a large number of dyes and compounds related to phenolsulphonphthalein, the purpose of which was the synthesis of a drug suitable for use as an internal urinary antiseptic. (Davis,[2] Davis and White,[3], Davis, White and Rosen[4]).

Acriflavine (diamino-methyl-acridinium chloride) was prepared by Benda under Ehrlich's direction, and was originally called trypaflavine on account of its therapeutic action in experimental trypanosome infections. Our attention was called to the compounds proflavine and acriflavine through recent publications in the English literature by Browning,[5] Gulbransen and co-workers (of the Bland-Sutton Institute of Pathology, London) who have demonstrated that these compounds possess a powerful antiseptic action, and that this antiseptic action is very markedly increased by the presence of serum. This peculiar property is possessed by no other group of antiseptics, in fact there is no other antiseptic which does not suffer marked reduction in potency in the presence of serum. Speaking of acriflavine, Browning and his co-workers say, "its bactericidal potency for staphylococcus aureus is 800 times that of chloramine-T or carbolic acid, and twenty times that of corrosive sublimate. Furthermore, with the ordinary antiseptics, an efficient concentration is also sufficient to terminate all effective phagocytic action; while in the case of acriflavine, phagocytosis proceeds actively even in a concentration 200 times greater than is necessary to kill micro-organisms." Of still more importance is the observation by these authors that the flavines are non-irritating to mucous membranes. Acriflavine, 1-200, and proflavine, 1-75 may be applied for three minutes to the conjunctival sac of rabbits without ill effect.

Laboratory Investigation.

The laboratory-demonstrated properties of acriflavine, which justify its clinical trial in the treatment of gonorrheal urethritis, may be briefly outlined as follows:

1. The antiseptic potency of acriflavine is increased by the presence of serum.

2. Given intravenously, acriflavine is nontoxic in comparatively large doses. Rabbits survive at least 0.013 grams per kilo.

3. In concentration many times that necessary for antiseptic action, acriflavine is non-irritating to mucous membranes.

4. It possesses the property of rapid diffusibility through the tissues (as was originally observed following injections into the ear vein of rabbits).

5. The antiseptic strength of acriflavine is retained in the presence of urine. During the routine testing of a large number of antiseptic dyes, using urine as a culture medium, the surprising observation was made that many of these dyes lost their antiseptic strength due to some interfering action of the urine. No satisfactory explanation of

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*An investigation of acriflavine and other dyes was begun in the James Buchanan Brady Urological Institute, Johns Hopkins Hospital, and at present is being continued in the laboratories of the University of Nebraska College of Medicine with the aid of a grant from the Scientific Research Fund of the United States Interdepartmental Social Hygiene Board.

this phenomenon was reached. Acriflavine, however, will inhibit the development of the colon bacillus in acid urine (hydrogen ion concentration, 6.0) in a dilution of 1:5,000, while in alkaline urine (hydrogen ion concentration, 8.0), the same organism is inhibited in the extreme dilution of 1:100,000. This very striking increase in antiseptic strength was due merely to a moderate variation in the hydrogen ion concentration of the urine, the degree of alkalinity which was reached being well within the range of variation of normal urine (Henderson and Palmer[6]), and much lower than the limit (pH 9.2) at which Shohl and Janney[7] have shown that the colon bacillus fails to grow in drug-free urine. The staphylococcus is inhibited in either acid or alkaline urine at dilutions of 1:75,000 and 1:100,000 respectively. See table 1.

Table 1.

Antiseptic Strength of Acriflavine in Urine.

Dilution of drug in urine	COLON BACILLUS Acid Urine (pH' 6.0)	Alkaline Urine (pH' 8.0)	STAPHYLOCOCCUS AUREUS Acid Urine (pH' 6.0)	Alkaline Urine pH' 8.0)
1:200	0	0	0	0
1:500	0	0	0	0
1:1000	0	0	0	0
1:5000	0	0	0	0
1:7500	*	0	0	0
1:10,000	*	0	0	0
1:20,000	*	0	0	0
1:30,000	*	0	0	0
1:40,000	*	0	0	0
1:50,000	*	0	0	0
1:75,000	*	0	0	0
1:100,000	*	0	†	0
1:200,000	*	†	*	†
Control of drug-free urine	*	*	*	*
Phenol. 1:1000, in urine	*	*	*	*

The dilutions were inoculated and incubated at 37°c. for 24 hours, after which 0.1cc. was transferred from each tube to melted agar and plated. Columns indicate number of colonies in plates. 0 no colonies; * infinite number of colonies; † inconstancy of results, as shown by experiment repeated several times.

6. Table 2 shows the efficiency of acriflavine against the gonococcus. Dilutions of the drug were made in testicular-infusion agar described by Hall.[8] Acriflavine inhibits the gonococcus in protein containing media in the extreme dilution of 1:300,000, while phenol is effective at only 1:1000, argyrol at 1:500, and protargol permits growth in the concentration of 1:500. The potency of acriflavine against the gonococcus, as measured in a test tube, is therefore at least 600 times that of protargol.

Table 2.

The dilution of proflavine, acriflavine and other standard antiseptics which will inhibit the development of the gonococcus in testicular-infusion agar.

Dilution	Acriflavine	Proflavine	Phenol	Argyrol	Protargol
1:500	0	0	0	0	*
1:1000	0	0	0	*	*
1:10,000	0	0	*	*	*
1:20,000	0	0	*	*	*
1:30,000	0	0	*	*	*
1:50,000	0	0	*	*	*
1:80,000	0	0	*	*	*
1:100,000	0	*	*	*	*
1:300,000	0	*	*	*	*
1:500,000	*	*	*	*	*
1:1,000,000	*	*	*	*	*
Control	*	*	*	*	*

0 no growth; * growth.

Clinical Results.

The above listed experimentally-demonstrated properties of acriflavine justify the expectation that in this drug we have the ideal. Clinically, this expectation is only partially fulfilled. The results in a small series of cases treated with acriflavine have been previously published.[1] The following series of thirty-four are all selected cases where the process was limited to the anterior urthra, because it was considered that from this type of case a more accurate idea as to the value of acriflavine in vivo might be obtained.

The drug was used in the strength of 1:1000, made up in distilled water. Twice daily the patient received an anterior urethral injection, retained five minutes, each injection being preceded by voiding. With the exception that an occasional patient complained of slight burning, the discomfort of injections was nil. Daily smears were made and examined for gonococci. The time of the beginning of treatment varied from the first to the thirtieth day after onset, the average being about the seventh day. No constant relationship between duration of infection and response to treatment was noted, excepting that some brilliant results were obtained in those instances where treatment was begun very early. The most persistent infections, however, were not those of particularly long duration, while some of those of two or three weeks duration responded readily.

The results shown in table 3 tally with those of the previous series and justify continued use of the drug. In keeping with the laboratory-demonstrated gonococcicidal properties of acriflavine is the usual immediate disappearance of the gonococcus from the urethral discharge. After one day (that is, after either one or two injections) the gonococcus disappeared in twenty cases; after two days, in five cases; after three days, in three cases; and in only six cases out of thirty-four did the organism persist.

In no case was treatment continued longer than twenty-one days, those cases not gonococcus-free and symptom-free at the end of this time being classed as failures. In tabulating results the thirty-four cases are divided in three general classes; failures (9), doubtful cases (9) and apparent cures (16). Of the nine failures, in five cases the drug was without apparent effect, either clinically or in causing a disappearance of the organism. The remaining four showed a persistent slight discharge, usually gonococcus-free, but with relapse every few days. The 9 doubtful cases were those in which the gonococci disappeared promptly and were not subsequently demonstrated, but in which there remained a slight persistent muco-serous discharge in spite of continued treatment. Although specific organisms could not be demonstrated by daily examination, it was not possible to pronounce these cases well.

The sixteen cases considered apparently cured were those which became gonococcus-free promptly with the beginning of treatment, which became discharge-free within the next few days and which remained clinically well during the period of observation. The number of days which each patient remained under observation is indicated in Table 3. The average period of observation was twenty-five days. The average duration of treatment of those patients considered cured was nine days. It should be noted that this low average figure includes only those cases which responded promptly to treatment, and not those which were classified as doubtful or failures, and in which treatment was discontinued after twenty-one days on account of lack of response.

Attention is called to the striking variation in the efficiency of acriflavine. As shown by table 3 in some cases the drug is without apparent effect upon the course of the disease, while in others it seems to act as a specific, these favorable cases becoming gonococcus-free and remaining so after the first injection. No adequate explanation of this inconstancy is available. It may be due to variation in the urethras of different individuals, giving varying opportunity for the gonococcus to become lodged in inaccessible crypts and glands. The problem then becomes one of mechanics in which ideal anti-gonococcus properties would be of no avail. Other factors as yet undetermined are variations in individual resistance, variations in strains of gonococci and local complications such as stricture and abscess formation.

Literature.

Opinions as to the value of acriflavine in gonorrhea show an utter lack of harmony. The comment by Armstrong[9] in the British Medical Journal is decidedly unfavorable. Not only did this author report indifferent results but he also stated that the drug causes marked urethral irritation. In decided contrast is Watson's[10] paper which concludes that "lavation with 1:4,000 acriflavine is the most satisfactory routine treatment for acute gonorrhea at present available."

Watson reports 196 cases of acute gonorrhea treated with acriflavine, 1:4,000, used as an irrigation (grand lavage of Janet) which he considers superior to the method of injection. The discharge "cleared up usually on the third day," the average duration of treatment was 15.4 days, and the average stay in hospital 19.8 days. There were six relapses among patients receiving less than seven days treatment. The absence of complications was striking. Only two out of 196 developed epididymitis during treatment, and these two were undergoing urethral dilation. Gibson and Oxon[11] consider that acriflavine "certainly seems a great advance in the treatment of gonorrhea," noted no irritating properties and even claim that the drug "seems to soothe the mucous mebrane." The urethral irritation noted by Armstrong may have been due to impurities. The drug is synthesized and purified with difficulty, and Browning has shown that impurities may cause irritating properties.

The German literature contains a brief mention by Baer and Klein[12] who were favorably impressed, but whose experience with the drug was very limited.

For an excellent discussion of the history, chemistry and properties of acriflavine and proflavine, together with information as to their availability, the reader is referred to the New and Non-Official Remedies Department of the Journal A. M. A.[13] The report of the Council on Pharmacy and Chemistry[14]

Table 3. Cases of Anterior Gonorrheal Urethritis Treated With Acriflavine.

Case	Previous Infections	Days Duration Before Treatment	DAYS OF TREATMENT † gonococci present; 0 no gonococci.																					Days of Treatment	Days Under Observation	Result
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
93	0	6	†	0	0	0	0	0	0	0	0	0	.	.	.	.	0	.	.	.	.	.	.	8	21	W
12	0	4	†	0	0	0	0	0	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	5	21	W
13	1	2	†	0	0	0	.	0	.	0	.	0	.	.	.	.	0	.	.	.	.	.	.	6	21	W
2	2	4	†	0	0	.	0	.	0	.	0	.	.	.	.	.	0	.	.	.	.	.	.	7	18	W
1	3	30	†	0	0	0	0	0	0	0	0	.	.	.	.	.	0	.	.	.	.	.	.	7	20	W
43	1	3	†	0	0	0	0	0	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	5	17	W
151	0	4	†	0	0	0	0	0	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	6	16	W
42	0	3	†	0	0	0	0	0	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	4	15	W
56	0	6	†	0	.	0	.	0	.	0	.	0	.	0	.	0	0	.	.	.	.	.	.	14	20	W
157	1	1	†	0	0	0	.	0	.	0	.	0	.	0	.	0	0	.	.	.	.	.	.	7	30	W
146	0	2	†	0	0	0	0	.	.	0	.	.	0	.	.	.	0	.	.	.	.	.	.	10	30	W
30	0	14	†	0	0	.	.	0	.	.	0	.	.	0	.	.	0	.	.	.	.	.	.	10	40	W
154	1	1	†	0	0	0	.	0	.	.	.	.	.	.	.	.	0	.	.	.	.	.	.	7	60	W
102	0	3	†	0	0	0	0	0	.	0	.	.	0	.	.	.	0	.	.	.	.	.	.	5	20	W
21	0	2	†	0	0	0	0	0	0	.	.	.	.	.	.	.	0	.	.	.	.	.	.	6	19	W
101	0	3	†	0	†	0	0	0	0	.	.	0	.	.	.	.	0	.	.	.	.	.	.	8	18	W
160	0	21	†	0	0	0	0	0	†	0	.	0	0	0	.	.	0	0	.	0	0	0	.	16	21	D
121	1	6	†	0	0	0	†	0	0	0	0	.	.	0	.	.	0	.	.	.	.	.	.	10	35	D
5	0	6	†	0	0	†	0	†	0	0	0	.	0	0	0	.	0	.	.	0	.	.	0	14	21	D
117	0	2	†	0	†	†	0	†	0	0	0	.	0	.	0	.	0	.	.	0	.	.	.	13	20	D
15	2	4	†	0	0	0	0	0	0	0	0	.	0	0	.	0	0	0	.	0	.	0	0	21	21	D
9	0	10	†	0	0	0	0	0	.	0	0	0	0	0	0	0	0	.	0	.	0	.	0	21	21	D
24	1	10	†	†	0	†	0	0	0	0	.	0	0	.	0	0	0	0	.	0	.	.	.	16	21	D
105	0	6	†	†	0	0	0	0	0	0	†	†	0	0	†	0	0	0	.	0	.	0	.	18	30	D
109	3	10	†	†	†	†	†	†	†	†	0	0	.	0	0	0	.	0	0	.	0	0	.	21	21	D
86	0	7	†	†	†	0	0	0	0	0	.	0	0	0	.	0	0	.	0	.	0	†	†	21	21	F
6	0	30	†	0	0	0	†	†	0	0	0	0	0	0	†	†	†	.	.	.	.	.	.	14	21	F
82	0	14	†	†	†	0	0	0	0	0	.	0	0	†	†	0	†	†	0	.	0	0	0	21	21	F
84	1	7	†	†	†	†	†	0	.	†	.	.	.	.	.	.	.	.	.	.	.	.	.	8	8	F
27	1	6	†	†	†	†	†	†	†	0	.	†	†	†	0	0	0	†	†	0	0	0	†	21	21	F
4	1	10	†	†	†	†	†	†	†	†	0	0	.	†	†	.	0	0	0	0	.	.	†	21	21	F
74	0	7	†	†	†	†	†	†	†	†	†	†	.	†	†	.	†	†	0	.	†	0	†	21	21	F
8	1	6	†	†	†	†	†	†	†	†	†	.	†	†	.	†	†	†	†	.	†	0	0	21	21	F
132	1	0	†	†	0	0	0	0	0	0	†	.	0	0	†	.	0	0	.	†	†	†	†	21	21	F

W, well during period of observation; D, doubtful; F, failure.

concludes that on account of lack of harmony in results of different investigators, "judgment of the therapeutic value of the flavine dyes should be suspended pending further study."

Summary.

In the laboratory, acriflavine has been shown to have increased antiseptic strength in serum, to retain its antiseptic strength in urine, and to be non-toxic, non-irritating and diffusible. On protein containing media it inhibits the gonococcus in a dilution of 1:300,000, in this respect having at least 600 times the potency of protargol. Experimentally then acriflavine would seem to be ideally suited.

Clinically, expectations are only partially fulfilled. Brilliant results were obtained in sixteen out of a series of thirty-four cases. There were, however, nine cases in which the drug was without apparent effect, and nine more in which results were indifferent.

No extravagant claims are made for the efficiency of acriflavine in the treatment of gonorrhea. The statement, however, is fully justified that with acriflavine results are distinctly better than with the organic silver preparations in common use.

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Surgical Problems of the Pancreas.

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The physiological activity, from an experimental standpoint, of the external secretions of the pancreas, are apparently fairly well understood, but clinically its physiology, both normal and abnormal, seems more or less shrouded in mystery. An increased knowledge of its activity will probably come more from the laboratory than the clinician, because through an examination in vivo we can only palpate a gland of negative significance, as many of its lesions are pathological in a physiological sense with a corresponding structural pathology unrecognized at present. The popular terms interlobular and interacinar pancreatitis, supposedly recognized by touch at operation, mean nothing clinically and represent a most crude report of the gland's physiological and pathological condition and depend entirely upon a personal equation.

The panceas is found in invertebrates as far back as the sea urchin (echinodermata), and undoubtedly its tryptic action was the first to develop as the food of fish is mostly proteid; while its diastatic enzymes probably came last, as no doubt fats as well as proteids were foods long before starches. In animals without teeth the gland is relatively larger, taking the place of mastication, and as we approach the anthropoidea it becomes more fixed to the posterior abdominal wall owing to the upright position. Rachford feels that as the animal approaches the carnivora the more likely the bile and pancreatic juice enter via a common opening.

According to Kingsley, in the fish (all aquatic ichthyopodia) excepting the eel family (cyclostomes), the salivary glands are absent, but when the vertebrate assumed more terrestrial habits and pulmonic respiration, the mouth no longer was bathed constantly with water and the salivary glands then appeared to keep this cavity moist. In man we know the digestive activity of the salivary glands is limited and confined to starches, and as the glands were late in development it is a further argument that diastatic digestion came last. In some fish (teleosts) the pancreas occurs as a slender tube in the mesentery; in some tropical fish (dipnoi) it lies outside the muscle in the wall of the upper gut; in the eel (cyclostomes) it is partly concealed at the spiral valve(an internal mucosal fold in the jejunum); and in the hagfish (myxinoids) it is partly concealed within the liver. In these four forms of early vertebrates the gland possesses no duct and is one of purely internal secretion. What a different picture in biologic evolution the pancreas, compared to the thyroid and anterior pituitary presents; the former developing first as a gland of internal secretion, later becoming external in addition; while the latter two developed first as external and now are glands of internal secretion. At the point in evolution of these glands from one type to another biologists are greatly interested, but so far have failed to discover the missing link. Not infrequently in man (½-1%) accessory pancreatic glands are found in the wall of the jejunum, outside the muscular layer, simulating the glands of the dipnoi (tropical fish), but we can hardly call this an atavism as these nodules all possess a duct.

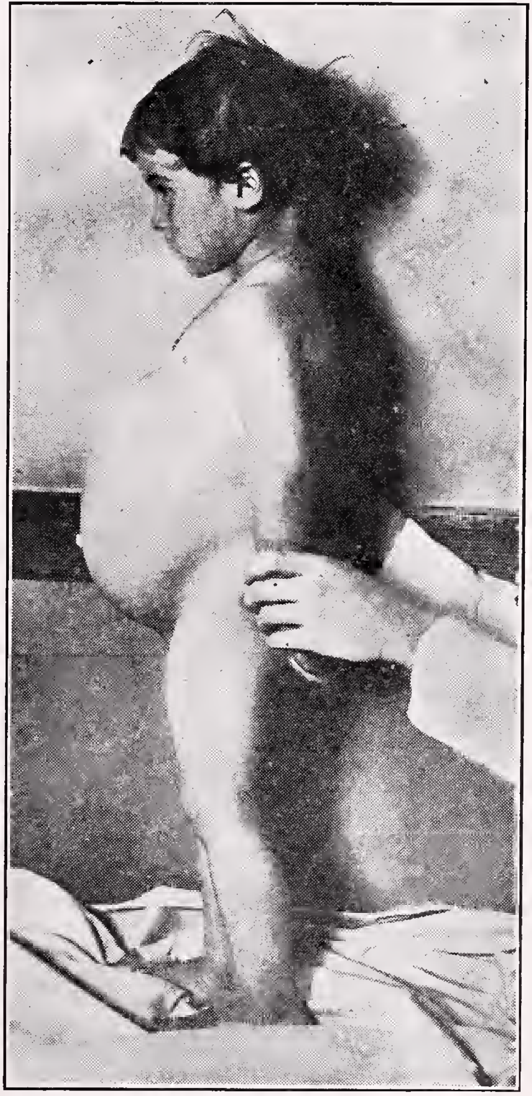
In man the gland is retroperitoneal and occupies a position in the most active (surgically speaking) anatomical position in the abdomen. Although generally quite firmly fixed it may enjoy considerable excursion and may lie either perpendicularly or transversely. Its consistency is quite brittle owing to a large proportion of glandular tissue, and its blood supply abundant, indicating a marked activity. With the above points in mind, together with its close relationship to the vertebral column, one can readily understand how easily it may, through trauma be ruptured. With its active tryptic secretion turned loose and many blood vessel walls ruptured or digested, a hemo-pancreatitis is inevitable, with a possible effusion of the contents into the lesser peritoneal cavity (pseudo-pancreatic cyst). Owing to its proteolytic activity, when a hemo-pancreatitis starts it must be difficult for nature to limit it by fibrous or connective tissue. Perhaps the extreme pain and shock displayed by the patient may be due to the nerves being attacked by these acrid digestive juices.

Pathology and clinical study not infrequently stir up retrospection sufficient to bring forth new physiological problems, and many advances in physiology owe their origin to the clinician. The activity of the pancreas in a pathological state brings up a question most puzzling. We are all familiar with the work of Chepowalnikow, a student in Pawlow's laboratory, who demonstrated that the pancreatic juice directly from the duct had very little if any proteolytic activity because it secreted this digestant in the form of a pro-enzyme (trpysinogen) which is inactive. He demonstrated that the trypsinogen united with a secretion from the upper gut (entero-kinase) and then for the first time were proteids attacked. This makes it most puzzling to understand the marked proteolytic activity shown in hemo-pancreatitis where the gland is autotryptically digested and in a pancreatic fistula, direct from the gland to the surface where the skin is often destroyed. In both pathological instances marked tryptic activity has taken place and no entero-kinase nor any other outside influence has had an opportunity to activate these juices. The recent observations of Bradley and Taylor (Jour. Bio. Chem. 1917, XXIX) and Tatum (Ibid. 1916, XXVII) and quoted by Archibald (Surg. Gyn. Obs., June, 1919) in which bile or its salts has a marked cytolytic effect on the cells of various organs, do not prove a definite relation between bile alone or in combination with its salts and pancreatitis. If any one dissects the region in vivo or at necropsy around the common duct and follows it through the duodenal wall and notes the obstructive effect of the sphincter Odi, the natural conclusion would be that the common duct must be considerably constricted by the muscular walls of the duodenum and also by the sphincter muscle of Odi in the normal individual who possesses a common channel for the entrance of the bile and pancreatic juices into the duodenum. Therefore many individuals must have some interchange of these juices normally with no clinical signs, as the pancreatic duct enters the bile duct with no valve formation. Perhaps the individual with a separate opening into the duodenum for the liver and pancreas, resembling the herbivora, is more fortunate. It is difficult to accept the theories of Tatum, Bradley and Taylor for hemo-pancreatitis in relation to bile salts and impossible in the condition of a draining pancreatic cyst where the skin is proteolytically digested.

While dealing with one doubtful physiological problem of the pancreas another presents itself, well worth reviewing. According to Bayliss and Starling a hormone absorbed from the duodenum via the blood stream is necessary before the pancreas will secrete its juices. This hormone, secretin, must enter the portal system in a more or less compact body, remaining unchanged, (we know it is oxidable) through the liver, vena cava, heart, lungs, aorta and through the pancreatic arteries in a form sufficient to stimulate the pancreas to activity. Needless to say, large amounts of secretion from a limited portion of the mucosa would be necessary and every part of the body would receive an equal amount. One can hardly conceive of nature developing such a crude and wasteful method of distributing so widely such a sensitive colloid. Here again probably is demonstrated a close activity with the liver and maybe this secretion causes a flow of bile directly because it goes to the liver first, and this in turn or a modified substance formed in the liver probably stimulates the pancreas. Another example of a close relationship is suggested in the hagfish, where the pancreas is buried in the liver. If this secretion is so widely distributed it may account for some severe headaches occurring soon after intake of food, due to a stimulation of the choroid plexuses which are remnants of the cephalic stomach and straight gut of the higher invertebrates, e. g. the limulus. The plexuses secreting fluid faster than absorbed, thereby causing pressure headaches. We know that some headaches disappear after food intake, which headache may have been due to a lack of cerebro-spinal fluid, and the food indirectly forming secretin which in turn stimulated the choroid plexus, thereby furnishing more fluid when there was an insufficiency.

The principal pathological lesions confronting the surgeon are tumors, acute pancreatitis, and duct stones. Pancreatitis occurs from trauma and infection or irritation ascending the ducts. The true cysts occur by obstruction, congenital or acquired, of the small or larger ducts, and the false cysts are merely an extension of a hemo-pancreatitis into the lesser peritoneal cavity. Most case reports fail to state whether or not they are dealing with true or false pancreatic cysts, a point which can not be too strongly emphasized for correction.

At operation it may occasionally happen that a cyst of a remaining portion of a Wolffian body or of a suprarenal should be ruled out. Congenital cystic disease of the pancreas is exceedingly rare, and it is equally rare that a cyst, congenital or acquired, presents an opportunity for removal. From an analysis of 47 cases from the literature we found cysts occurring from the age of 6 months to 70 years; a history of previous abdominal trauma in 20%; that 61% of the patients first discovered the tumor; that drainage following the operation lasted from 21 days to 5 years.



Case Reports.

Case I. Fig. I. Pancreatic cyst, congenital. A girl age 3 with no history of children's diseases and breast fed for one year, was brought to the office for a greatly enlarged abdomen which had been gradually increasing for the past year and a half. The only complaint was increasing difficulty at respiration. No history of pain or gastro-intestinal upset. The patient walked very erect owing to the greatly enlarged abdomen and inspired with considerable difficulty, particularly when sitting. The examination was negative outside the abdomen which was greatly distended, almost equally so in the epi and hypogastrium as at the umbilical region. At the latter point the ring was distended and an umbilical hernia presented. A fluctuating mass could be felt per rectum. All the signs pointed to fluid and the diagnosis by several observers ranged from tuberculous peritonitis, ovarian cyst to chylous ascites. Through an incision six inches long in the left rectus we found a dark slate-colored cystic tumor, very thin-walled, many loculi, and filling in every available space in the compressed abdominal cavity. It was not adherent excepting at the hilus of the spleen which was easily dissected free, and the sac finally and definitely traced to the very end of the pancreas from which it plainly originated. It was necessary to amputate about one-half an inch of the tail of the pancreas in order to deliver the cyst intact. The proximal end of the pancreas was ligated with chromic catgut which proved efficient. The contents of the cyst measured 7000 c. c. and had a dark slate color. It was tested for digestive ferments with a negative result. Epidemic influenza was just starting here at the time and the child developed a double pneumonia from which she recovered fully and is now perfectly well.

Case II. Pancreatic cyst, infectious. A married woman age 41, five living children and two miscarriages. Has had tonsilitis every winter since childhood and pneumonia at 27. Had a pelvic operation five years previously, at which time gall stones were felt. The history dated back three weeks, starting with pain which had remained constant ever since with marked exacerbations. In the past week the pain became marked in the left costo-vertebral angle. Vomiting was marked from the beginning and the past five days the patient noticed a gradual and distressing distention of the abdomen with nausea. She presented a picture of acute intra-abdominal trouble with difficult, rapid and shallow respirations. The pulse was 120, temperature 100, white count 15000, urine negative, with an epigastrium tender and distended to hardness. There was marked tenderness in the left costo-vertebral angle. The edge of a rounded mass could be felt just below the level of the umbilicus.

Under novocaine a cyst with walls two inches thick and very vascular was found presenting thru the gastro-hepatic omentum. Many areas of fat necrosis were present and the gall bladder was full of stones. The contents, 2000 c. c., were a chocolate brown and the cavity had a smooth lining extending to the region of the pancreas. A large tube was carefully sewed in and reenforced by accurately surrounding it with the great omentum. There was considerable digestion of the skin and drainage lasted three months. Four months after this operation I removed the gall bladder which was thick-walled, oedematous and contained many stones. Seven months after the first operation the patient returned with a cystic mass presenting immediately to the left of the original scar. Further drainage was recommended, and six weeks later she sent word that the cyst had disappeared.

Case III. Acute pancreatitis: Male, age 39, laborer, was found in bed at home with severe pain all through epigastrium, profuse perspiration and almost constant vomiting. Four hours before was suddenly stricken with pain while lifting a heavy beam and was taken home and found with a pulse of 140, temperature 100, epigastrium flat but very rigid, so rigid that no indentation could have been made by hand even if patient could have stood the pressure. He had had frequent attacks of tonsilitis and chronic stomach trouble with constipation for many years. A perforated gall bladder, perforated duodenal ulcer and pancreatitis were considered and the abdomen opened above the umbilicus. Clear serum was present, stomach and transverse colon injected. The gall bladder was pale, would not empty, a trifle thickened, but no stones. The duodenum was negative but the pancreas felt enlarged, and on exposure presented the typical picture of acute hemo-pancreatitis. Only a small incision, about ⅜ of an inch, was made in the capsule about midway between head and tail and a rubber tube with gauze inside placed down to this incision. The patient recovered with several masses of pancreatic tissue about one inch square sloughing out through the sinus which persisted for about one month. Whether or not the operation cured the patient or whether he developed an immunity for self-preservation remains doubtful.

Consolidated Report of the Bureau of Public Health, State of Nebraska, Nov., 1919.

Administrative.

Number of meetings and conferences attended in various parts of the state	7

Division of Vital Statistics.

Certificates of birth	2428
Letters sent out	1681
Names recorded on birth certificates from supplimental name cards	1964
Baby books mailed to mothers	1567
Certificates of death	948

Division of Epidemiology.

Number of trips made to various parts of the state in connection with the control of contagious diseases	8
Smallpox vaccine furnished for free vaccination, No. tubes	300
Number of cases of communicable disease reported—	
Chickenpox	105
Diphtheria	42
German measles	4
Influenza	19
Measles	4
Cerebrospinal meningitis	5
Mumps	5
Pneumonia	1
Poliomyelitis	4

Scarlet Fever	84
Septic sore throat	1
Smallpox	245
Tuberculosis	20
Typhoid Fever	18
Whooping cough	65

Division of Laboratories.

Examinations made as follows:

Wassermann, blood	360
Wassermann, spinal fluid	20
Spinal fluid, colloidal gold reaction	3
Smears for gonococci	19
Sputum for tubercle bacilli	26
Cultures for B. diphtheriae	66
Miscellaneous bacteriological	10
Agglutination for typhoid	13
Water, bacteriological	50
Milk, bacteriological	5
Blood, for malaria	2
Animal inoculations	2
Globulin tests	10
Blood, differential count	1
Complement fixation for tuberculosis	1
Complement fixation for gonococci	2
Pathological examination for rabies	1

Division of Venereal Diseases.

Number of cases disease reported by physicians	483
Literature and material sent out by the division to physicians—	
Manual of treatment	1500
Report cards	1100
Tubes for blood	410
Slides	102
Miscellaneous literature and correspondence	2700
Requests received for arsphenamine	14
Number of ampoules supplied	190
The follow-up work in this division has required—	
Interviews	25
Letters	58
Telephone calls	25
Visits to patients	25
Visits to physicians	16
Visits to institutions	2
Number of meetings and conferences attended in the state	8
Trips to various parts of the state in connection with the work outside of Lincoln	3

Division of Sanitary Engineering.

The personnel of this division has been engaged in work for this state only the last week of the month.

Personal investigations made of water and sewer systems of the state	4
Plans for water works and sewer systems submitted to the division for approval	6

Respectfully submitted,
I. H. DILLON, Chief,
Bureau of Health.

To the Medical Profession of Nebraska:

There have been some changes made in the plan of handling the reports of contagious diseases in various districts of the state, looking to a more complete reporting of these diseases, and to making it easier for each individual physician to make his reports.

The last session of the legislature enacted a law known as House Roll No. 210, which was approved April 7, 1919, and provides, among other things, that the Superintendent of Public Instruction shall be the secretary of the county board of health.

The United States Public Health Service has apointed Dr. W. H. Wilson, who is the state epidemiologist, as collaborating epidemiologist, and the County Superintendent of each county, also the commissioner of health of Omaha and Lincoln, as assistant collaborating epidemiologists for their respective localities. This means that all reports of contagious diseases will be made to the secretary of the county board of health, and through them to this office.

As these various officials are all officers of the United States Public Health Service, the entire matter of reporting contagious diseases will be handled in franked envelopes or cards, which will be furnished from this bureau.

The reporting of all contagious diseases will be handled in this way **except venereal diseases**, which will be reported direct to the Division of Venereal Diseases of this Bureau, the same as in the past.

This is a distinct step in advance for Nebraska, but in order to continue this work, and keep the state of Nebraska in line with other states which have these privileges, it is necessary for Dr. Wilson to furnish the United States Public Health Service with telegraphic reports of all contagious diseases occurring in the state each week.

Doctor, can we count on your help and assistance, in that you will report all of your contagious diseases at once to your County Superintendent, or if in Omaha or Lincoln, to your commissioner of health?

I. H. Dillon, M. D.,
Chief, Bureau of Health.

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The New Year.

To the Journal family we extend greetings. We hope that during the past year you have enjoyed the Journal and that it has proved of practical value to you. We sincerely hope for your continued cooperation and support in the efforts of your publication committee to supply high class medical reading to the profession in Nebraska. The year just passed has been fraught with many difficulties but these we have endeavored to use as stepping stones stimulating us to greater efforts. Success, measured by the acquisition of material things, is often the unrecognized pathway to discontent and a dissatisfied heart. The Journal pages are open to original articles concisely and briefly presenting subjects enlightening to the practitioner. Case reports unless merely abstracted to illustrate the text of the theme presented, are not enthusiastically received. Constructive criticism on the management of our Journal has been and is appreciated by us. Items of interest to the profession, also short abstracts of county society meetings, enhance the value of our Journal. The excellent quality of original articles supplied by our members, is most commendable. Your continued and loyal support stimulates our interest in the duties delegated to us.

Prohibition and Sickness.

The recent supreme court decision on war time prohibition will likely leave no interval for lifting the ban on liquor selling before the national prohibition constitutional amendment becomes operative on January 16th, 1920.

Already the liquor interests are active in planning to export the $40,000,000 worth of supplies on hand and in bond which can only be legally done before that date. The forces of the national government will then be operative to prevent the manufacture and transportation of all alcoholics contrary to the prohibition law of the land. The days of the bootlegger and the high jacker will soon be over. There will remain only the stock in hand, prized, safe guarded, and husbanded by the owner. The difficulties and expense of acquiring liquor at the present time, practically limits its possession to the well-to-do.

What will be the influence of this national movement on the health of the people? Will it do away with acute and chronic alcoholism? Will it diminish the spread of venereal infections? Will it postpone or limit the development of hypertension and arterio sclerosis? Will it make myocarditis, cirrhosis of the liver, the contracted kidney less common? Will the insane hospitals have more room and will it be less expensive to maintain public hospitals?

These questions have had the floor of argument through generations. Facts and not opinions are soon to be revealed which will truly answer them. The profession is deeply interested and will be keen to note progress as time makes more secure the elimination of alcohol in its relation to the etiology of disease.

Apropos of this, a recent interview with Doctor Meyer, administrator of the Cook County Hospital, Chicago, published in the Tribune, indicates his impression based on observations during the present severe cold spell in Chicago. We condense his statement as follows:

"Booze and frozen feet go together. Yesterday, day before yesterday and today we ought to have had an inrush of frozen feet. We've had none."

"On a day like this fractures due to booze and slippery walks ought to be rolling in. We have had none."

"Looking back five months we don't see any more woman alcoholics."

"Seldom a patient now in the alcoholic observation ward though on Saturday nights before July 1st, the ten beds there used to be full."

"Saturday nights we used to get whole neighborhoods of broken heads, acquired at the Polish wedding or the Italian Fiesta—

fifteen or twenty at a haul. Almost none now."

"Barrel house cases resulting from drunken fights and from illness due to alcoholic excess are dropping off."

"The typical County Hospital patient has ceased to be typical since July. I mean the man with no shoes, no socks, and the seat of his trousers out. I mean the so-called "bar fly." The patients are of a far better class now and needn't be ashamed to be here. And we don't have so many repeaters, the man whom we had to patch up just for another bout with booze. This gives us more time for genuine scientific work of real mercy."

In the light of these observations are we not likely to have similar reports from other large institutions, scattered throughout the United States? We hope so.

Some Thoughts as to the Detail Work of the Nebraska State Medical Association.

The Nebraska State Medical Association was organized fifty-one years ago. Its growth was steady but slow. Sixteen years ago it was reorganized along lines suggested by The American Medical Association, in harmony with other state medical associations. In the reorganization the county society was made the primary unit and the only portal of entry to the state and national organizations.

Since reorganization the growth has been more rapid, indeed, has been greater than the increase of the population of the state as a whole.

Of about 1500 physicians in the state over 1100 are members in good standing in the association. To those who constantly and persistently labored to accomplish the adoption of the plan, great credit is due.

The chief factor in federating our members and unifying our efforts, not only for the association, but for the welfare of the state as well, was the establishment of the State Medical Journal, owned and controlled entirely by the Association. This action was initiated in 1914 and became an accomplished fact two years later. Its present success removes all doubt in the minds of the credulous as to the wisdom of the promoters.

Every large business, organization, or corporation, whether the object be pecuniary, social, or humanitarian, requires competent management. The greater the organization, the more work is involved in conducting its activities. No organization is automatic. All require competent personal attention upon the part of those in charge otherwise failure will ensue. The successful conduct of our Association requires an enormous amount of detail work as well as executive ability. As with all State Medical Associations, the responsibility rests chiefly upon the Secretary. In our state the Secretary is also Treasurer.

That the members may realize the silent work increasing the burden of this office, the writer will enumerate briefly some of the duties of the secretary.

First: A record is kept of each member in the state giving his relation to the local society. This card index system must be constantly revised to keep it up to date. The secretary has a record of all deaths of members in the state, also removals and those in arrears.

Second: The secretary files a monthly report with the secretary of the National Association giving all changes of memberships, deaths, removals, etc. This requires careful reference to the card index system.

Third: The secretary must keep a list of the officers of the various county and councilor district societies. All dues are paid through the county officers to the state association. This feature of the work requires an immense amount of correspondence and necessarily much time.

Fourth: The secretary must prepare the program for the annual meeting and arrange the same, and also attend the meeting. Physicians often write in and ask to be on the program and promise the title of their paper later, then often fail to send the title. This necessitates much correspondence and often, I regret to say, unjust criticism.

Fifth: Recently the office of treasurer was added to that of the secretary. This demands another set of books and it is necessary for the secretary to keep not only a list of the annual dues but the payments for defense fund and payments to the Journal, separate. There are three bank accounts, one for the State Association, one for the Defense Fund, and one for the Journal.

Sixth: The conduct of the State Journal, while in the hands of an excellent committee, imposes a great deal of detail work on the secretary. He is made responsible for securing ads, changing copy often, and arranging for space to please our patrons. That work alone requires much time and tactful attention. The procuring of manuscripts for publication, sometimes writing to members two or three times, often at the last moment failing to receive certain promised papers, necessitates immediate action in rearranging the contents for the entire pending issue, causing delay in getting copy to the printer on time. Another task of no small moment is the correction of proof sheets.

In conclusion: The writer knows from experience the hours and hours of time daily given to the conduct of the office of secretary. Altogether the silent work performed by the secretary requires a certain amount of time each day of every week. The files in his office are in excellent condition, any member of the State Association can at any time receive any desired information promptly. I venture to say there are many men in Nebraska holding positions of trust in corporations and business houses and receiving substantial salaries who do not give any more time to their work and do not display any more ability in the conduct and management than is evidenced by the Secretary of the Nebraska State Medical Association.

H. M. Mc.

Office of Medical Officer in Charge, Division of Venereal Diseases, State Bureau of Health, Lincoln, Nebraska.

Lincoln, Neb., Dec. 16, 1919.

Under date of Oct. 17th, this office quoted to the physicians of Nebraska, prices on the various Arsphenamine products. The above mentioned quotations have been withdrawn and the following substituted:

The Division of Venereal Diseases, Department of Public Welfare, will supply, gratis, the necessary Arsphenamine products for the treatment of indigent patients.

In cities where official clinics have been established under the supervision of this Division, such indigent patients may be treated. Where no clinics have been established the Arsphenamine products necessary will be supplied upon the submission of a properly accomplished requisition.

Reports covering treatment administered are required upon blank forms supplied by this office.

Division of Venereal Diseases
Department of Public Welfare Lincoln, Nebraska.

REQUISITION FOR FREE ARSPHENAMINE PRODUCTS.

.................................., Neb., ...19........

To the Division of Venereal Diseases:

Request is made for Arsphenamine
Neo-Arsphenamine to be used in the treatment of .... residing at .... in the city of ...., Nebraska, reported as case No.................. who is suffering from Syphilis in the .... stage, and who is now infectious or may become infectious at a later date, or who may transmit Syphilis to offspring if not treated. This patient is unable to pay for the drug or for treatment, but if the drug is furnished free I agree to administer it and put forth every effort to keep the patient under treatment until cured. I will follow as far as possible the general principles of treatment set forth in the Manual of Treatment you have furnished me. I agree to also makle full reports of treatment on the blanks you furnish me, and to return any Arsphenamine not used in the treatment of the above named patient.

....
Attending Physician.

This is to certify that I am the patient named in the foregoing, that the facts there set forth are true and that I agree to faithfully continue treatment until cured if Arsphenamine is furnished free for that purpose. I further agree that I will take all precautions recommended by my physician or the health officer to prevent the spread of the above disease to other persons, and that I will not perform any act which will expose other persons to the above disease.

....
Patient.

Just a Moment — Please!

During the year of 1919 there were 5,040 cases of venereal diseases reported by the physicians of Nebraska as required by law. We believe that while this is below the actual number, nevertheless, the physicians are endeavoring to co-operate not because they are forced to do so but for the reason that they sense the seriousness of the situation and are "live wires." Nebraska has not had to resort to the courts in this matter of reporting as one state did recently and the profession is to be complimented at the good showing made.

We have recently had to combat the insinuation that many physicians were not diagnosing venereal diseases, especially Syphilis. If our records show that you are reporting cases it is pretty good evidence that you are not letting a venereal disease case pass you without a diagnosis. Permit us to call your attention to the fact that all cases, "regardless of stage," are to be reported.

Are you taking advantage of the State Laboratory facilities made available to you, especially Wassermann blood tests and Gonococcal smears, free of charge. Why not resort to the Wassermann more frequently — we believe it pays.

Our follow-up work has been productive of much good and without notoriety. This is done to keep the patient under treatment until cured. Of course if you forget to notify us, as required when patient fails to return, we can not do our part.

Your continued co-operation is requested. Are you with us? You must be, we refuse to think otherwise. Additional franked report cards, also literature, sent promptly upon request.

Respectfully,
P. H. Bartholomew,
A. A. Surgeon, U. S. P. H. S., Director.

STATE NOTES.

President H. W. Orr is actively interesting himself in planning for a splendid State Medical Association convention and a larger enrollment in our membership.

The sub-committee (Drs. B. F. Bailey, E. W. Rowe and H. E. Flansburg), of our Committee on Public Policy and Legislation have been doing good work with our Campaign Committee, Dr. K. S. J. Hohlen, chairman, in a propaganda looking to favorable action by our constitutional convention, seeking their recommendation for creating better health laws in Nebraska.

Retiring president, Col. J. M. Banister, M. D., rendered valuable assistance in outlining certain plans that are workable, comprehensible and alike just, to the public and to the physicians.

Drs. H. J. Lehnhoff and A. P. Overgaard as chairman and secretary respectively in our Council and Board of Trustees are alert in obtaining a complete survey of our 1919 work, and presenting their reports with recommendations to our House of Delegates in our annual meeting, May 24-26, 1920.

Dr. A. E. Cooke of Randolph, councilor of the 4th district, reports an inquiry from Royal, Neb., for a physician who desires to engage in general practice and own an interest in a good drug business.

Dr. H. E. Potter, councilor of the 7th district, reports the following places as probable good locations for physicians desiring a general practice: Deweese, Clay Co., Ohiowa, Fillmore Co., Diller, Jefferson Co.

A. A. Fricke of Omaha has moved to Los Angeles, Calif., where he expects to limit his practice to obstetrics.

Dr. F. W. Scott has changed his residence from Lodge Pole to Chappell, Neb.

Dr. Wm. J. Pinkerton, formerly of Bostwick, is now residing and practicing medicine in Omaha.

President H. W. Orr has announced that the committee on Care and Prevention of Contagious Diseases for the coming year is to consist of Dr. I. H. Dillon, Lincoln; Dr. C. A. Anderson, Stromsburg and Dr. I. S. Cutter, Omaha.

Members of the Council on Medical Education are: A. D. Dunn, Omaha; J. S. Welch, Lincoln and I. S. Cutter, Omaha.

COUNTY SOCIETY NOTES.

At the annual meeting of the Omaha-Douglas County Medical Society, the officers elected for 1920 were: Paul H. Ellis, president; A. D. Dunn, vice president and Roy A. Dodge, reelected secretary-treasurer.

At a recent meeting of the Furnas County Medical Society the following officers were elected: Dr. E. E. Cone of Oxford, president, and Dr. J. M. Willis of Arapahoe, secretary.

The annual meeting of Saline County Medical Society was held at Crete library building at 4 p. m., Dec. 18. The following officers were elected for 1920: President, Joseph Cerny, Wilber; vice president, F. J. Stejskal, Crete; secretary-treasurer, H. W. Quirk, Crete; delegate to state association, P. F. Dodson, Wilber; alternate delegate to state association, C. B. Brenn, Western.

OBITUARY.

R. W. Connell, M. D., of Omaha, former health commissioner, died Jan. 1, 1920.

Sir Wm. Osler, born in Canada, July, 1849, died at Oxford, England, Dec. 29, 1919, of pneumonia. He was president of medicine at Johns Hopkins University from 1880 to 1904 when he became regius professor at Oxford, which position he held until his death. He was a leader in medical progress, who honored his profession and was honored by them.

A Textbook of Materia Medica for Nurses, by A. L. Muirhead, M. D., Professor of Pharmacology, Creighton Medical College, Omaha, Nebraska. Cloth price $1.50, p. 183, illustrated. St. Louis: C. V. Mosby Company, 1919.

This volume places before nurses in a concise and clear manner the main points concerning the action of those drugs which they will use in their daily work. The information is condensed and simply stated consequently easily understood. The book is well adapted to serve the purpose for which it is written.

A. B.

GERIATRICS.

A Treatise on Senile Conditions, Diseases of Advanced Life and Care of the Aged, by Malford W. Thewlis, M. D., Associate Editor of Medical Review of Reviews, New York City. Published by C. V. Mosby Co., St. Louis, Mo.

Among the triumphs of modern medicine is the diminished death rate in infancy and early childhood, as shown by vital statistics the country over. Of late much is said of the proportionate increase in mortality among those past fifty years of age. Is it due to the more complicated life we are living, to changes in our diet or to the greatly diminished physical activity of our race?

Every effort at enlightenment is worthy of our attention. The subject is by no means novel. In the four page bibliography here given, are two writers in the sixteenth century (one under the title "Gerialogos") and eight in the seventeenth century.

Despite the oft-quoted dictum from Dr. Osler, the great value to society of work done in literary or scientific fields by men past three score—even four score years—is well shown in chapter three of this work. Indeed, suitable employment, physical and mental—the former in the open, with proper diet and elimination—are the **sine qua non** for well being in old age.

Care of the sight becomes essential for activity and reading, each an aid toward mental balance.

Too great changes from accustomed food may be unwise but less of the nitrogenous in meats and hearty vegetables with more of fruits and milk are desirable.

Constipation with lack of elimination is made the bete noir as it well may be; since the resulting toxines may do much harm to blood vessel and kidney.

Salines are given to promote elimination.

High blood pressure may be normal for some and not demand treatment. For such conditions and a resulting nephritis, Dr. Thewlis' favorite remedies are "Three gr. tablets of dried pig's kidney" and Elixir of phosphates of iron, quinine and strychnia.

Diabetes in the aged demands far less rigorous changes in diet, though saccharin and gluten flour may be substituted for sugar and starchy food. Again the elixir of phosphates and codein in some cases. Both Allen's and Joslyn's treatment are advised but a day's fast as such is not mentioned.

Care in urinalysis is advised as a routine. With proper treatment much comfort may result (from improved mental balance of the invalid), both to himself and the household.

Bronchitis in the aged may be much improved by increased elimination by bowel and kidneys. If acute it demands support. Alcoholics are urged with strychnia and again the elixir.

Gangrene may be looked for in diabetes. A cut shows a stump, the fore arm having sloughed with good result. Surgery seems a last resort generally, for Dr. Thewlis.

Proof of this is his report of 200 cases of prostatic enlargment treated without surgery. Nor did any of them have a catherter life. A 4 gr. tablet of chromium sulph. every three hours with "diathermia treatments"—a prostatic electrode **in recto** the opposite pole being upon the supra-pubic region, treatment for five minutes daily at first, then twice a week for six months. If relief does not follow, then operation may become necessary; but this has not occurred in 200 cases.

In the chapter on therapeutics caution is given as to dosage. In the elderly, stimulants are required in larger amounts and depressants must be prescribed in smaller doses than usual in adults. Codein and heroin are chosen rather than morphia, for pain or sleep, they being less dangerous. After effects are to be expected since all drugs are slowly eliminated. Alcohol is advised for general use in full quantities, particularly if its use has been habitual.

A red tongue is made an indication for administration of acids, as the hydrochloric, and a white tongue for alkalies like magnesia; if the coat is heavy, calomel is indicated.

For **tic duoloureux** elixir of phosphates is the prescription.

In debility this same elixir. Quinine is a main reliance in grain doses as support in most senile conditions. For heart support, strychnia 1/120 gr. and spartein 1/40th. In cardiac distress, nitroglycerine.

More than average care is required, in treatment of the aged to avoid errors in diagnosis. History-taking is unsatisfactory, as misstatements are possible in simplest matters. Malingering is not uncommon.

In treatment of cancer, the author succeeds with radium in epithelioma and often in carcinoma.

Surgery may be demanded, but is much more serious in several ways than in middle life. Resistance to infection is greater but shock is also severe. Repair is slower and less complete.

Nitrous oxide-oxygen anesthesia is the first choice.

In later pages the author discusses various surgical methods quoting Bardwell of Boston also Jos. Bissell on use of radium for epithelioma and Robert Morris's aphorism "Keep senile cases out of bed."

The volume touches upon many of senile conditions. Much quoting of cases in a way that is commonplace is noted. The same might be said of remedies mentioned. It is worth while, however, to call attention to especial needs of old age.

S. R. T.

MEDICAL BOOK SALESMAN. Unusual opportunity, new books being published; desirable exclusive territory now available. P. Blakiston's Son & Co., Publishers, 1012 Walnut Street, Philadelphia.

The Students' Library Association

of the Middlesex College of Medicine and Surgery solicits donations of Medical and Scientific libraries, Medical books, bound and unbound volumes of back numbers of Medical and Scientific Magazines, funds for current American and Foreign Medical Journals.

Jennie Hraba, Class '21
Association Secretary

University of Massachusetts
SCHOOL of MEDICINE
East Cambridge, Mass.

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SUUM CUIQUE

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Knee Joints.

H. Winnett Orr, M. D., F. A. C. S., Lincoln, Neb.

During the past few years, many of us have had unusual opportunities to see patients of certain kinds in large groups.

In the matter of treating knee joint injuries, we found that certain conclusions had been reached by the British, and we were able to apply these conclusions and others in our work among the Americans in France.

Knee joint cases fall into two groups, the so-called internal derangements, and those due to compound injuries. So-called internal derangements are often infective and they may have acute suppuration. With the compound injuries, we usually have an acute suppuration. In the treatment there are three principal agents, to which all others are secondary. These are surgical operation, splint, and plaster of Paris.

There has been a tendency to place too much reliance upon secondary forms of treatment, such as heat, light, massage, electricity, etc. Any or all of these are inadequate, except when used in association with the principal ones I have mentioned. Many knee joint conditions may be treated by immobilization in good position alone. In rupture of the crucial ligaments, a period of protection and rest, is often sufficient to practically cure the knee.

General Sir Robert Jones has shown us the possibilities of operation for removal of detached or loose portions of cartilage, external or internal semilunars, etc. These operations are comparatively simple and are usually followed by very great relief.

In a suppurative process involving the knee joint, especially when there is an associated fracture of the lower end of the femur or the upper end of the tibia, immobilization in perfect position together with adequate drainage are the two immediate indications.

There has been a great deal of discussion during the past year on the possibility of treating infected knee joints with motion. This is advocated to prevent ankylosis. After a very considerable experience with these cases it seems to us that they may be classified both as to the original condition, and as to the treatment advisable, into four principal groups. First, acute suppuration without compound injury and without fracture. These cases must be adequately drained and may in certain cases be treated with motion throughout.

Second, those cases in which there has been a compound injury, such as a bullet wound or a stab wound, but without extensive damage to the articular surface. They may often be closed immediately and healing will take place primarily. After suppuration develops they must be thoroughly drained and in these cases also the Willems method may be used. In the third group in which there is compound injury with associated fracture of the femur or the tibia, adequate drainage and perfect immobilization are necessary. Ankylosis is to be expected and should occur with the knee at an angle of about 20 or 25 degrees. In certain of these cases even when seen early, amputation through the thigh is indicated. We saw a good many patients for whom an effort had been made to save the leg and who later came into the class which we designate as No. 4 and for which treatment is extremely difficult.

In the fourth class are those from any of the above in which the disease has run a long course and in which there is pus, not only in the knee joint, but in the femur or tibia or both, usually with pocketing of pus up the thigh or down the leg, and general septicemia.

In an early observation of these cases we found that recourse was frequently being had to thigh amputation. The mortality was very high. Primarily, drainage had been inadequate and immobilization had rarely been accomplished. We made the rule that all these patients of class four should be given adequate drainage and a proper splint, with amputation left as a final resort. It was possible for us to greatly reduce the mortality in this class of cases. We adopted more radical methods of drainage, such as reflection of the patella. Thorough use of the Thomas splint and plaster of Paris with good drainage enabled us to save a number of these extremities, and certainly some lives.

On some patients subsequent amputation was a necessity. That, of course, was to be expected. When amputation was necessary, however, it was done after the improvement which came as a result of good drainage, and a period of rest.

We offer a word of warning on the use of the so-called Willems method. Willems, De Page and others have certainly been able to secure movable knee joints in cases that were formerly permitted to ankylose. On the other hand, attempts to secure motion for some of these knee joints have contributed to a number of serious results. Both patients and surgeons should be very carefully selected for the mobilization method. There were a considerable number of these cases, especially those of extensive damage in the upper end of the tibia, for whom early amputation was justifiable.

Amputation, if done later, must be done at a properly selected time, and only after a period during which the patient has been carefully protected by splints, and during which the sepsis has been thoroughly drained. At the time selected for amputation, his condition must be as good as possible.

Discussion.

Dr. J. P. Lord, Omaha.—Mr. Chairman: We are greatly indebted to Colonel Orr for his admirable presentation. There will be little I can add.

One of the big results of the war experience is that we are finding ourselves as a whole, practising more definite and uniform methods in the treatment of cases, where heretofore the practice has been more or less of an individual one. We have carried out our individual ideas in regard to them, and the war has enabled us to accumulate a vast experience, hence crystallized opinion on the subject.

In regard to this rather startling method for the treatment of infected joints by mobilization, I think much will depend upon the character of the infection. In an infection that is not too destructive, we can understand that by voluntary active movement it will have the effect of extruding the pus. I think we may be somewhat overawed at the temerity of these men in carrying out this practice; to see a knee joint patient walking up and down the ward, with the pus oozing out as he walks, is apt to lead us astray. It is spectacular to see them, but to know what will be the ultimate result is another matter. Many of these cases were simply birds of passage. They have not been suitably checked as yet. We will have to deal with percentages later, and base our practice upon what they show. It seems to me there are possibilities for harm in the simple "rule of thumb" mobilization of seriously injured joints simply because somebody else has done it. We have not the large observation of those who instituted this treatment. It may be the best treatment, but the question is, will we know how to apply it in securing like results? I think we should not become extremists in the practice of a method so startling.

In the consideration of this subject, we must undertake to appropriate what information we can from the experience of those over there, and adapt it to our present needs. We find much harm has resulted to seriously injured knees because of improper support in transportation. The application we must make here is in moving our cases to a hospital we should be very careful not to commit the errors sometimes committed over there for the want of proper equipment. I think there will be a larger stock of Thomas splints on sale in this country after the war, which will add to the comfort and after well being of our patients.

In regard to internal derangements of the knee joint, we have hitherto been so overawed by operations on knee joints that we thought it necessary to mobilize them. Our ideas of immobilization were entirely too strong. For instance. operations upon the semi-lunar cartilages were followed by immobilization for several weeks. It was found that we kept this up too long and the patients lost motion for some time. It has been my practice to put these patients under passive motion at once. In one case a patient walked out of the hospital five days after an excision of a semilunar cartilage. We have been doing operations and have forgotten the most essential point to be gained by the patient—the function. We must have in mind that motion of the knee must be made, and that we must introduce the sutures so as not to have them torn out and not interfere with the synovial membrane. We must bear in mind that it is our place to restore function in knees or other joints after injury or operations.

Member.—I move you the courtesies of the floor be extended to Dr. W. E. Wolcott, Omaha, just returned from over there. He is an orthopedist by profession, and I am sure will be able to make a valuable contribution to the discussion.

Dr. W. E. Wolcott.—I thank you gentlemen for the courtesy.

I do not know that I can add anything to the excellent talk by Colonel Orr. I know of no one on the other side, with the exception perhaps of Colonel Baer, who is better qualified to speak on this subject.

This question of motion in acute sepsis of the knee joint and when to establish it, and the question of treatment in the septic knees as the result of war injuries, were among the most difficult problems we had to handle.

In England we got the joints considerably later—up until the spring of 1918. At that time we began to get the joints after the March push on the fourth to fifth day. We had heard considerable about the beginning of motion, and at first we tried motion in all classes of joints, even with compound fractures; but soon discontinued that because of the pain it caused. We finally settled down to the application of this motion only in those cases that had had through-and-through injuries, such as a machine gun bullet that had missed the bones, in which there had been infection, and lateral drainage on each side of the patella had been established and left open. Some of the cases were closed successfully at the front, at the time—opened and washed with ether and closed successfully. Those which broke down were reopened and drained. That is the class in which we continued the motion and secured good results.

It is my opinion it is no place for motion in a knee joint with a compound fracture in connection, or with large destruction of cartilage surface. The best thing we can hope for is a fixed knee joint in good position. Complete immobilization is necessary, otherwise the patient will acquire a deformity which will later need correction.

If there is a destruction of the tibia, an osteomyelitis at the head of the tibia is practically impossible to overcome. Those are the ones in which we should consider early amputation. I recall a case at Fort Des Moines, who had been in a French hospital for seven months. They had saved his leg. He had lost the lower four inches of his femur, and they were trying to save the limb! He had four or five discharging sinuses. I advised immediate operation. In that case I cannot understand the attitude of trying to save a limb which would take at least another year to get rid of the osteomyelitis in the tibia, and the best you could hope for would be a stiff knee, with five inches of shortening. He is much better off with an artificial limb.

Dr. A. J. Brown, Omaha.—I have nothing to add to Colonel Orr's paper. There are a few points which I would like to emphasize because of their importance.

One advantage surgery has gained during the war with its great amount of surgical material is standardization of injuries and methods of treatment. Nowhere has this advantage been greater than in classification and treatment of injuries of the knee joint. Because of the great number of these injuries it has been possible, as Colonel Orr has shown, to divide these injuries into various groups and apply to each type of injury the form of treatment which experience has shown to be the best thus far devised. Further study however may discover better methods than those now advocated.

There is one point in early mobilization of the knee joint which deserves emphasis and that is that motion should always be kept within the limits of pain. If this is borne in mind this form of treatment will give good results. If motion is allowed to such an extent that pain is caused the advantage will not be so great. Dr. Wollcott spoke of the great pain on motion in the fracture cases and called attention to the fact that they do not do so well. The same will be true in an infected case if motion is not kept within pain limits.

The compound fracture cases involving the lower extremity of the femur or the upper extremity of the tibia or both, with the fracture extending into the joint form a very important group. Many of these cases in which an effort was made to save the limb dragged on for weeks and months, and eventually came to amputation. The osteomyelitis involved more and more bone and finally nearly all the lower end of the femur or upper end of tibia or both sloughed away and the carious bone was extruded. Then the osteomyelitis cleared up. The reason for this seems to be that in this situation there is a great amount of cancellous bone, more than in any other part of the body. Let a virulent infection start in this soft bone and it will spread through the entire mass of cancellous bone before it can be checked. This infection will kill the bone and gradually the whole upper extremity of tibia or lower end of the femur will slough away to the point where the infection will be checked by the hard cortical bone of the shaft. Some of these cases get well, that is, the osteomyelitis does, and the patient is usually left with a useless extremity, short and in poor position for weight bearing. The line of weight bearing is very important in all injuries of the knee joint. It passes through the point of contact between femur and acetabulum downward through the center of the knee joint and then through the center of the tibio-tarsal joint. The femur is thus offset from the direct line. If there is a change in the relation of the joint surfaces with whole or partial destruction of either of them, the pull of the muscles attached to the upper end of the tibia makes it almost impossible to keep the two joint surfaces in such position that the limb, even if it recovers without great shortening, which is doubtful, will be a good weight bearing limb or as useful as an artificial one.

These same cases occur in civil life and it seems that there is now sufficient data to teach us that early amputation is the proper form of treatment. As soon as the patient is over the first shock of the injury do an amputation. If smears show streptococci, there is danger of sepsis, and the wound should be left wide open. After the wound becomes bacterially clean, a secondary suture can be done. In this way the length of convalescence will be diminished and by giving the patient a proper artificial support he will be benefited to a greater extent than if we tried to save the limb.

Dr. Clarence Emerson, Lincoln.—I think we must remember Dr. Orr has only had time to give us a few suggestions on which we can direct our lines of thought.

It seems to me a great deviation from our usual custom to treat internal derangements of the knee joint associated with infection by inducing or encouraging motion during the time of the infection. I am sure if Dr. Orr has arrived at the conclusion that is a better method of treatment, he must have seen some startling results from it. Those of us who are pretty familiar with his work here in Lincoln know he has been even more than conservative heretofore in treating them in just the opposite manner, and that he has been a very strong advocate of fixation, by means of plaster and splints, of infections of joints due to various causes. It is hard for most of us to realize how a joint in which there is lacerated tissue and more or less raw surface can be benefited by having these surfaces pulled apart and rubbed against each other, as would be the case if motion were continued.

There has been for quite a long time among physical trainers an impression that injuries of the joint can be better treated by continuing motion. It has always seemed to me there have been two classes of opinion on this point. The orthopedic men were more inclined to produce immobilization of the joint, while the men doing physical training work were inclined to encourage these folks to continue to walk. You will find that true in the football and baseball trainers. The men are inclined to put on adhesive strapping and continue work. But I believe those with lacerations of the external ligaments often develop a weak knee which tends to slip out on slight provocation because of the tendency to encourage the men to continue to go about and use the injured joints.

I did not understand from Dr. Orr's talk that he was convinced this was a better method of treatment. I would like to have him make himself more specific in regard to it. I rather think unless he has seen some startling results, his treatment will be conservative in immobilizing these joints, because to do otherwise would be such a reversal of his former method of treatment.

Dr. A. N. Anderson, Lincoln.—This discussion in regard to the treatment of joints is a very interesting one. It brings up the question of physical culture and passive motion. It is a question whether massage or motion should be used in these suppurative knee joints. In our work in massage at the Royal Gymnastic Institute at Stockholm, Sweden, they did not advise massage for a joint where there was pus. But I take issue with Dr. Emerson as to the motion of joints that are injured, in which there is no pus. For instance, you have a sprained ankle. By proper massage and motion you can cure that patient much sooner than with immobilization. It takes away the accumulation around the joint and you will bring fresh blood to the joint, which enables the tissues to heal more readily. In that way motion in the treatment of sprained joints or any injury to the parts is very beneficial.

I would like to ask Dr. Orr if this treatment, namely, massage and motion, was used in those cases of sprained and injured joints, and if they used massage very much in the orthopedic work?

Dr. H. W. Orr.—I purposely reserved one statement to make in the final discussion. The whole question of whether to move or not to move an infected knee joint goes back to the principle that a knee joint may or may not be moved on the question of pathology alone; whether a considerable amount of articular surface has been damaged or not. In this moving of an acute septic knee joint which has been adequately drained, good results were obtained. If there is considerable damage to the articular surface, it should not be moved, in my opinion.

In regard to trying to establish motion after a partial fixation has been established, I think the attitude of Dr. Gillette of St. Paul is correct, and I wish to quote it: "It is dangerous to attempt to establish motion in such cases, because you are almost certain to light up infection and make new danger for your patient."

We did find in a great many patients on the way home the knee was fixed in bad position. We found it was possible to straighten the knee to a point of usefulness, and by careful immobilization give him a nearly straight leg.

In trying to maintain a position that would be satisfactory at the end, there has been a little difference of opinion as to the amount of angle of the knee joint. The opinion ranges between ten and twenty degrees. The knee should be flexed at least ten degrees, and some think as much as twenty, from the straight line. Colonel Brackett thinks twenty degrees about right. It should be left to the patient to decide. (Applause).

Enlargement of Cervical Lymph Glands.

F. W. Heagey, M. D., Omaha.

The diagnostic problems arising in general glandular enlargement are of interest. So perplexing and puzzling are the conditions which give rise to such enlargement that the internist must be constantly on the alert for every scrap of evidence that the case may present.

Several recent cases of marked cervical adenopathy on the medical service at St. Joseph's Hospital, emphasize the need of closer cooperation between surgeon and internist.

Case 1.—Mr. J. D. came in for a swelling in the right side of the neck of one year's duration. The swelling had been the size of an egg until two months ago, when it began to increase rapidly in size, and was accompanied by similar swellings under the right arm.

Physical examination: The man was well nourished and in good physical condition, except for a tumor in the neck, and a fine papular rash that covered the entire body. The tonsils were enlarged and infected, and the teeth were notched suggesting the Hutchinson type. The right anterior cervical glands were enlarged, discrete, the skin was freely movable over them, and there was no softening. The usual signs of inflammation were absent. There was also a general involvement, in a much less degree, of all the lymph glands of the left cervical region, and both axillae. The same was true of the inguinal regions, and there was one very much enlarged epitrochlear gland on the right side. The chest and abdomen were normal, except for some atrophy and dishing of the interscapular muscles.

Laboratory findings: The urine was normal. The blood showed 70% hemoglobin, 5.6 million red cells, 9,200 leukocytes, 65% polynuclears, 27% lymphocytes, 6% large lymphocytes, 2% eosinophiles; the sputum was negative; the temperature pulse and respiration were normal.

Discussion: The general adenopathy, with discrete glands, the pegged teeth and the papular eruption spoke for lues, but the negative Wassermann reaction suggested other possibilities, such as Hodgkins' disease, leukemia, or tuberculosis. The blood count revealed nothing in a positive way, so that the presence of infected tonsils, the atrophy of the interscapular muscles, the greater involvement of the anterior cervical groups, and the laboratory findings made the diagnosis of tuberculous cervical adenitis probable. This was later confirmed by microscopical examination of the removed glands.

Case 2.—Master V. M., 5 years old, was brought to the hospital for a swelling of the neck and paleness of one month's duration. The child had been breast fed to the age of eighteen months. He had always been well, until ten months previously, when he had an attack of mumps, with orchitis. The recovery from this had been rapid and the child did well until an attack of influenza six months before admission. It was stated that this attack had lasted about two weeks without involvement of the lungs. The swelling of the face and neck, and the pallor were noted one month ago. There had been labored breathing, drowsiness, and swelling of the ankles. The mother had noticed numerous black and blue spots on the body wherever the child had been bruised. There had been some constipation, and a marked reduction in the quantity of the urine. The family history was negative.

Physical examination: The boy appeared fat and well nourished. The skin was sallow. There was a large ecchymotic spot on the left cheek and there were numerous smaller spots scattered over the entire body, especially on the limbs. There was no edema. The full appearance in the neck was due to enlarged glands, especially of the anterior cervical groups. These glands were discrete, and hard. A general adenopathy was present, most marked in the epitrochlear and inguinal glands. The tonsils were enlarged, without evidence of infection. Evidence of thymic enlargement was wanting. The heart was slightly enlarged to the left, and there was a soft, blowing, systolic murmur at the apex which was transmitted to the left. The abdomen was slightly distended, but there was no dullness in the flanks; the liver edge was palpable one finger's breadth below the costal margin; the spleen was enlarged.

Laboratory findings. The urinary output varied between 750 and 1080 cc. in twenty-four hours. The specific gravity was 1015; there was no albumin or sugar. Microscopic examination showed a few red blood cells and a few pus cells. The blood Wassermann test was negative. The blood showed 39,000 to 48,600 leukocytes, 1,900,000 red cells, with no polynuclear leucocytes seen at any time. The differential leucocyte count showed 91% small lymphocytes, and 9% large lymphocytes. The temperature was normal, the pulse 90 to 100 and the respirations 20 to 30. The patient died 4 weeks later. An autopsy was refused.

Comment. Although there was a classical blood picture of lymphatic leukemia, yet prior to the blood count there were a great many things to divert one's attention from that possibility. The age of the patient (5 years), the pasty swollen appearance of the child, and the diminished urinary output directed attention to the kidneys. The absence of pathological urinary findings and of a true edema ruled out nephritis. The numerous ecchymotic spots, together with the drowsiness of the child, suggested scurvy as a remote possibility. The acute general adenopathy, the enlargement of the liver and the spleen emphasized the diagnosis of acute lymphatic leukemia.

Case 3.—Mr. F. S., 27 years of age, grocer, married, one child. Chief complaint, painless swelling in the right side of the neck of five months' duration. Removal of the tonsils one month previously had rather aggravated than retarded the growth. The tumor had increased rapidly in size and was accompanied by a similar swelling in the right axilla. The neck and axilla had been operated upon one month before admission and the wounds became infected. The microscopic diagnosis was lymphosarcoma. Roentgen therapy had been used. When first seen, the patient was up and about; he was slightly dyspnoeic, bleeding from the mouth and the nose, but feeling otherwise well.

Physical examination: The patient was a well nourished man, with a tendency to corpulency, but very pale and rather dyspnoeic. The general physique was feminine in type, the neck short, the hips broad, the thighs arched, and the distribution of suprapubic hair feminine. The whole body, but more particularly the anterior surface of the tibia and abdomen, was covered with numerous petechial hemorrhages. These spots were purplish-red in color, varying from 2 to 5 mm. in diameter. They were discrete macules, with well defined borders. There were no large ecchymoses. The mucous membranes of the mouth and nose showed nothing abnormal except the general oozing of blood. There were no ulcerations or abrasions from which the hemorrhage seemed to come. On the left side of the neck, there was a healed incision with a discharging sinus at its lower end. The edges of the sinus were slightly indurated and reddened. There was also a scar in the right axilla. There was little or no swelling of the underlying tissues such as one might expect to find in the recurrence of a new growth. There were a few glands palpable in the left axilla and in the inguinal regions. There was no enlargement of the epitrochlear glands.

The chest examination was negative, except for the weakness of the heart sounds. The liver and the spleen were palpable about a finger's breadth below the costal margin. The abdomen was normal otherwise.

Sensation and the deep and superficial reflexes were normal. The patient's mind was clear, he suffered no pain, and he was singularly undisturbed by the hemorrhages from the mouth and nose.

The urine was normal. The blood Wassermann test was negative. The blood pressure was 120 systolic, 75 diastolic. The pulse was 120; respiration 36; temperature 98.6° at 8 a. m. The hemoglobin was 65%, red cells 1 million, white cells, 520,000, with 1% polynuclears, 60% small lymphocytes and 39% large lymphocytes.

Within three hours after admission, the patient went to bed, because of increasing weakness and persistent hemorrhages from the mouth and the nose. The pulse and the respiration increased rapidly in rate and death came in about twenty-four hours. The hemorrhages and the loss of blood did not seem sufficient to account for the rapid exitus. It would seem that death was the result of myocardial malnutrition—decreased oxygen transport from the rapid destruction and loss of red cells. A postmortem examination was made within three hours after the death of the patient.

Postmortem findings. The subcutaneous fat was greatly increased in amount. A thymic body, 3 cm. by 4 cm. was present. The lungs were retracted, so that there was a marked increase of cardiac exposure, and both pleural cavities were dry. There were numerous petechial hemorrhages in both visceral and parietal pleurae. The lungs were markedly congested and at first sight presented an appearance similiar to broncho-pneumonia. Upon closer inspection, it was seen that the areas which gave the lung the typical patchy appearance, were not located around the bronchi, but were scattered throughout the entire lung. There was no increase in moisture. On the cut section of fat, it appeared rather mealy and granular. The pericardium contained a normal amount of straw colored fluid. The deposit of epicardial fat was very much increased over the right ventricle. There were numerous petechial hemorrhages in the pericardium and the epicardium. These hemorrhages were more numerous over the left ventricle. The endocardium was normal except for slight atheromatous changes at the base of the aorta, which involved the aortic valves. The coronary arteries were normal.

There were a few anthracotic bronchial lymph nodules. The aorta was about one-half the normal size. There were no gross pathological changes demonstrable.

The fat in the abdominal wall was much increased and the muscle development was moderate. The peritoneum was dry and covered with numerous petechial hemorrhages. The most striking thing in the abdomen was a black, congested distended coil of intestine, about three feet long. The lumen of the gut was filled with blood and the wall, like all the rest of the intestines, was studded with numerous white nodules. In the lower ileum these nodules were increased in length and corresponded closely to the Peyer's patches. The hemorrhagic condition of the gut was due to the occlusion of the mesenteric vessels by pressure of enlarged lymph glands at the root of the mesentery. The hemorrhage into the periglandular tissues was profuse. The retroperitoneal glands were enlarged, friable, like the mesenteric glands, dark purplish in color, and non-adherent. The contents of the glands could be easily expressed from the capsule. Brunner's glands showed no gross changes.

The position of the abdominal organs was normal and there were no adhesions. The stomach was normal, except that the mucous membrane was studded with the small fine hemorrhages, which were more numerous at the pyloric end.

The lower border of the liver appeared two fingers' breadth below the right costal margin. It was firm and the capsule was smooth and without hemorrhages.

The gall bladder was distended but emptied easily when compressed. On section, the liver was tough and fibrous with a mottled appearance which denoted lobular changes. The pancreas was normal.

The spleen was about four times the normal size. The capsule was quite wrinkled, without hemorrhage, and denoting a recent shrinkage. There was no perisplenitis. There was a small accessory spleen at the hilum. On section, the pulp was granular and reddish brown in color and could be easily expressed. The Malpighian corpuscles were not visible. There was no increase in stroma.

Both kidneys were surrounded by a fatty capsule about one and a half times the normal thickness. The kidneys were normal in size and had a whitish sheen resembling the "large white kidney." On section, the markings and the relations were normal. The capsule stripped with ease. The pelves, ureter, bladder, prostate, and seminal vesicles were normal.

MICROSCOPICAL PROTOCOL OF CASE III.

Lymph Nodes.

The stroma is delicate and the endothelial cells are not prominent. The germinal centers are not distinguishable from the lymphoid tissue. The node gives a picture of active lymphocytic hyperplasia without much stroma change. Mitoses are not in evidence. About one node there is a lymphocytic invasion of the fatty tissue. This node is hyperemic, and shows remnants of germinal centers. The vessels are thin, markedly dilated, and delicate.

Thymus.

The lobular arrangement and the differentiation between cortical and medullary substance is indistinct. Most of the gland has been replaced by fat, but Hassel's corpuscles, which are quite numerous, and the branched epithelial cells are present. The preponderating type of cell is lymphoid and the sections suggest lymphoid hyperplasia, but since the vessels show a large number of lymphocytes, mixed with red blood cells, one cannot be sure that the increase of lymphoid cells is not due to infiltration.

Pancreas.

There is a moderate fibrous thickening of the trabeculae and some fatty infiltration. The blood vessels show the presence of many lymphocytes. The islands of Langerhans are well preserved.

Intestine.

There is a marked hyperplasia of the lymph follicles throughout.

Liver.

There is a small amount of fatty infiltration. The most important feature is the packing of the sinuses with lymphocytes and the diffuse infiltration of the perilobular capsule which is edematous. The areas about the bile ducts are so thickly packed with lymphocytes as to give the impression of a local proliferation. There are, however, no mitotic figures, nor is there a lymph node arrangement. The distribution of the cells is that of an infiltration process. The blood vessels are packed with many lymphocytes. The parenchymal cells show moderate pressure atrophy.

Spleen.

The hyperplastic picture in the spleen corresponds to that of the lymph nodes, but there is more congestion, more pigmentation, and the trabeculae are more hyaline than in the nodes. Malpighian bodies are not in evidence.

Kidney.

There is a diffuse infiltration of lymphocytes with here and there localized areas. The tubular epithelium shows swelling and granular degenerations with slight desquamation.

Summary.

The extreme hyperplasia of the nodes, without mitosis, the infiltrative type of cellular distribution without definite evidence of local growth, the packing of the sinuses of the liver and the vessels generally with lymphocytes, force us, from the pathological standpoint, to the conclusion that we are dealing with a lymphocytic leukemia rather than a lymphosarcoma.

Diagnosis.

The diagnosis therefore is lymphatic leukemia, with persistent thymus of the lymphoid hyperplastic type.

This case presents many interesting and instructive features. It is profitable to follow the development of the leukemia in this patient. The appearance of the cervical swellings directs the attention of the physician, usually without a blood count, instinctively to the tonsils. (It would be interesting to know what was the appearance of these tonsils before and after enucleation). Microscopical examination should have revealed a picture that is not that of either acute or chronic tonsilitis. It is possible that the blood at that time did not show anything abnormal, which is particularly true of the myelogenous forms in the early stages. It is highly improbable that there were no blood changes at the time the cervical and the axillary nodes were removed. The examination of the glands at that time must have revealed certain changes since a mistaken diagnosis of lymphosarcoma was made from the section, and the case presented as one of lymphosarcomatosis.

It is not within the scope of this paper to take up the different points of a leukemic invasion of a lymph node and lymphosarcoma of the same. But suffice it to say that in the former the gland capsule is intact, and the surrounding structures are not invaded; that the glands appear simultaneously, accompanied by characteristic changes in the blood of leukemia with petechial hemorrhages in the skin and with gross hemorrhages from the mucous membranes. The glandular enlargement wherever present is usually of the same stage of development.

The hemorrhages, either gross or petechial, are very often the first sign of the disease, and aggravate the anemia and asthenia.

The invasion and destruction of tissue by lymphosarcoma is simulated by the acute leukemia gland only in a mechanical way. The mesenteric vessels in this case, were compressed but not invaded by the glandular mass. On section, these glands revealed to the unaided eye an intact capsule out of which the contents were easily shelled and from which the vessels were easily separated, notwithstanding the fact that the lumen of the vessel was completely occluded by the pressure of the mass.

Fever, age, and the areas involved do not aid in the differentiation clinically, for out of the thirteen cases of acute lymphatic leukemia mentioned by McCrae, eight had fever, four had all the glands involved and five had the cervical glands only. The spleen was involved in all the cases. The liver was enlarged in three cases.

Strauss reports a case of lymphosarcoma with a blood count of 65,000 white blood cells, 90% mononuclears, but gives no additional data as to how the original diagnosis of lymphosarcoma was made. This case is doubtful.

Kundrat defines lymphosarcoma as a tumor arising from groups of lymph nodes and extending to the neighboring lymph nodes unaccompanied by any blood changes and with the spleen, liver, and bone marrow rarely involved. Thus the involvement of the spleen and the liver and the remarkable blood picture would, according to Kundrat, exclude our case from the lymphosarcoma group.

The next most important findings were the feminine type of the distribution of the suprapubic hair and build, the rounded and arched thighs, the small size of the aorta which was scarcely 1.5 cm. in diameter at the arch, the small heart, the persistence of the thymus and the grossly visible Peyer's patches, and solitary nodules, the stigmata of status lymphaticus. The grafting of an acute lymphatic leukemia upon a "status" individual is not unknown, and if we are to believe the results of recent experimentation, it is surprising that it does not occur more frequently.

There are many similar cases described. Reeman reports a nine year old girl with lymphatic leukemia who at autopsy showed an enlarged thymus. Brandenburg says that there is always a persistent thymus in acute lymphatic leukemia accompanied by hemorrhages. Major reports in the Johns Hopkin's Hospital Bulletin, No. 9, September, 1919, a female aged 42 years with acute lymphatic leukemia and a thymic tumor which covered the pericardium. All the organs were infiltrated with lymphocytes. Sternburg reports three cases of leukemia with thymic tumors. McCrae, Chrostzow, Serard, Rocas, Palma, have all seen a similar combination of a persistently enlarged thymus and leukemia.

Ghika has noted that the removal of the thymus in guinea pigs produces a leukopenia, and he is further convinced that the thymus is a leukocyte producing organ. Herz writes at some length on the relations of what he terms a thymico-lymphaticus to acute lymphatic leukemia.

Conclusion.

From the three cases reported, a blood examination would seem to be of value in differentiating cervical adenitis.

I take this opportunity of expressing my gratitude and appreciation for the interest manifested by Dr. A. D. Dunn and Dr. E. G. Carey in the preparation of the above work.

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Abscessed Teeth and Systemic Disturbances.*

John W. Shuman, M. D., F. A. C. P., Sioux City, Ia.

Focal Infection Not a New Thing.

That focal infection is not a novelty I wish to cite (J. A. M. A., Vol. 72, No. 11, page 817) an incident which occurred one hundred and eighteen years ago. Under the heading of "An Account of the Cure of Several Diseases by the Extraction of Decayed Teeth." Dr. Benjamin Rush writes: "Some time in the month of October, 1801, I attended Miss A. C., with a rheumatism in her hip joint, which yielded for a while to the several remedies for that disease. In the month of November it returned accompanied with a severe toothache. Suspecting that the rheumatic affection was excited by the pain in her tooth, which was decayed, I directed it to be extracted. The rheumatism immediately left her hip and she recovered in a few days." He further writes: "I cannot help thinking that our success in the treatment of all chronic diseases would be very much promoted by directing our inquiries into the state of the teeth in sick people, and by advising their extraction in every case in which they are decayed. It is not necessary that they should be attended with pain, in order to produce diseases, for splinters, tumors and other irritants before mentioned often bring on disease and death, when they give no pain and are unsuspected as causes of them." I am glad to give this ancient article what publicity I can.

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*Addressing the Cedar, Dixon, Thurston and Wayne Counties Medical Society, Oct. 9, 1919, held at Hartington, Neb., by invitation.

The Open Abscess.

Peridental infections are of two clinical types, open and closed. The open type is easily demonstrated by inspection for it has an external communication. This type is illustrated by carious cavities, stumps of decayed or broken teeth and those pockets of pus which lie under tartar formations; also fistulous tracts from apical abscesses. The odor of the breath in this class of cases is characteristically "rotten" and the tongue generally has a dirty brown coat. Very often such patients complain of digestive disturbances. Such complaints are varied in character, but are often treated for dyspepsia, heartburn and allied conditions.

The Closed Abscess.

The closed abscesses or hidden foci are the ones which cannot be seen by inspection and are clinically of two types, passive and active. The passive foci are areas of infection at the apicies of faultily filled root canals and are supposedly causing no systemic trouble, I say supposedly for personally I feel that the seemingly "quiet focus" causes the bearer some systemic disturbance. That disturbance may be only a small amount and may be only intermitten, but sufficient to warrant study.

The Active Abscess.

The abscess that forms about the root of a dead tooth is called a peridental abscess. This abscess is a circumscribed area of pus and on account of its location is an osteomyelitic process. The infecting organism usually present in such a condition is the streptococcus. Absorption into the system of the toxic material is a disease and this disease is a septicobacteraemia. The diagnosis of such a disease calls for a keen, thorough, painstaking examination of the patient which embraces all the findings which the diagnostic laboratory instruments of precision offer, e. g., X-ray, blood and urine analysis, etc., and the hearty cooperation of consultants in the allied professions, dentistry and medicine.

Symptomatology.

The active focus causes the patient to consult the physician for the relief of the following conditions, arthritis, iritis, gastritis, endocarditis, cystitis, neuralgia tic, etc., etc., which are not diseases, but are symptoms of disease elsewhere situated—focal infection. The closed active abscess has been found so constantly associated with a dead tooth that we have come to look upon all dead teeth with no little degree of concern. A dead tooth occurs either by extrinsic or intrinsic factors. All causes, other than those caused directly or indirectly by the doctor of dental surgery we have little or no jurisdiction over. But it is suggested here that dentists think long and carefully before devitalizing a tooth. It "is not what one gets by with, but what one gets caught with" that really counts after all.

Radiology.

Just a word in reference to the X-ray. It has been with the advantages that the X-ray has afforded us that such great strides have been made in the diagnosis and treatment of peridental abscesses. That the shadowgrams never lie is an old adage, but that faulty interpretations are frequently made is constantly forgotten. We must remember that the X-ray film is a study in black and white and the shadings of the same. We must know our anatomy. We must keep in mind the position of the tooth with reference to the X-ray (the angle) and also consider the penetration. Physician, dentist, radiologist and bacteriologist should constantly work hand in hand, they are the allied powers. Every tooth extracted should be subjected to a "post-mortem." If all these things are indulged in by the one who proposes to do X-ray interpretations the readings will be more nearly correct.

Other Foci of Infection.

As allies let us not for a moment forget that in the skin, sinuses, tonsils, lungs, gallbladder, appendix, organs of reproduction, etc., there may be hidden one or more foci of infection as well as about a tooth; which explains why some of our cases do not get well following the removal of an abscessed tooth. I have on a number of occasions (Iowa S. M. S. 16—Jour. Lab. & Clin. Med., '16) made the statement that immediate relief should be secured (at least in twenty-four hours) following the removal of a focus of infection, if that focus of infection was causing the illness and that illness was of an acute or subacute type. I still maintain that that dictum is practical and correct.

Treatment.

There is only one rational treatment of such a condition as septicobacteraemia and that is to remove the cause. If it is a tooth that is the cause, have it pulled out. The abscess does not have to be as large as a hickory nut to be causing systemic disturbances so great that it is only limited by the power of the patient to express or the ability of the physician to diagnose. For the fact that a dead tooth almost never aches (the nerve is dead) and usually appears in good condition to inspection it goes unsuspected for a long time as the possible etiological factor for systemic disturbance. Working upon the principle that dead teeth are a menace and carefully examining all dead teeth and practicing prophylactic as well as curative medicine has led to numerous extractions, many with gratifying results and some with no apparent abatement of disease symptoms. This should not discourage any of the parties concerned for the dead tooth was no asset and if not causing trouble it would sooner or later.

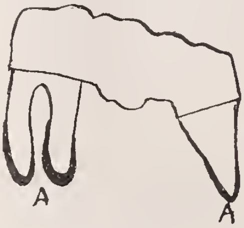
A number of my dental confreres tell me that a devitalized tooth will abscess within six months from its death, if such is true, then why all the squabbling. Why have we any systemic disturbance secondary to abscesses located in the jaws associated with the teeth, let us rectify the same by calling a halt to the wholesale devitalization of teeth, thereby increasing man's chances for better health, which is the all highest aim of the allied professions.

Case Reports.

Here are a few record briefs of patients, picked from our files at random, who suffered systemic disturbances directly due to abscessed teeth and whose systemic disturbances cleared up so quickly that no doubt was entertained as to the correctness of the diagnosis and treatment. The full and complete records are on file in my office. The diagrams are inserted because of the fact that not all doctors read roentgengrams. You may compare them with the roentgengrams which I will pass around.

Joint Nerve and Stomach Disturbances.

Case I. J. S., age 56, consulted 11-24-1916, complained of "pains in back, limbs and epigastrium and vomiting, lost fourteen pounds in weight in one month." Physical examination was negative with the exception of his nine remaining teeth, all of which were dead and abscessed (see Fig. 1).



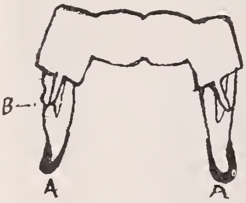
A. Apical abscesses. A sample of the mouth condition of case No. 1.

Fig. 1.

They were extracted by Dr. A. Eldridge, 11-27-1919, and one month later when patient was discharged he said he felt fifty percent better. His own remark in June, 1919, was "I never felt more physically fit in my life."

Joint and Eye Disturbances.

Case II. Mrs. F., age 63, first consulted in 1915 and complained of "rheumatism in right knee." She had the left upper central incisor, which was dead and abscessed with a fistulous opening to the buccal surface, removed by Dr. C. Johnson. Her knee returned to normal. June, 1919, Dr. W. J. Bussey referred the same patient for physical examination on account of "marginal cataracts, both eyes." Her physical condition was good with the exception of two abscessed teeth (see Fig. 2) which "had been bridged to for four years." They were removed by Dr. S. C. Hatch and three months later when she consulted Dr. Bussey he stated as follows: "The cataract condition remains stationary."

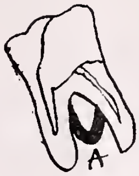


A. Apical abscesses. B. Fracture as result of strain from "flying bridge."

Fig. 2.

Polyarthritic Disturbances.

Case III. Nurse S., age 23, March, 1919, stated: "Confined to bed with hyperpyrexia and tachycardia, left knee, right shoulder and wrist swollen and painful, diagnosed "acute rheumatic fever," treated with salicylates, recovered in six weeks; convalesced three months, and still do not feel just right." A dead and abscessed right upper molar (see Fig. 3) with a fistulous tract draining to the buccal surface was found. Extracted by Dr. S. C. Hatch, same date. The interesting part of the history is that when this illness began this side of the face had pained and was swollen. When the swelling went down (ruptured externally?) the arthritis improved. The attending



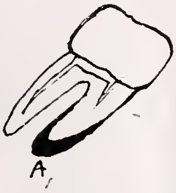
A. Abscess on bunal root; this cannal was not filled.

Fig. 3.

physician had examined the mouth and found the tonsils absent, but did not examine the teeth!

Muscle and Joint Disturbance.

Case IV. Mrs. J. W. L., age 37. Consulted, July, 1919, complained of "backache and pain in right hip for two years." Had lacerated cervix and perineum repaired two years previously in hope of clearing up backache, but no change. Physical findings unimportant except for three dead and abscessed teeth (see Fig. 4). Extracted by Dr. J. E. Packard, 8-2-1919. She made a complete recovery. Her history card shows under date of 9-22-1919 the statement "back does not ache or hip pain."

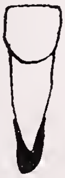


Sample of the mouth condition prevalent in case No. 4.

Fig. 4.

Eye Disturbance—(Iritis).

Case V. Rev. M., was referred 6-28-1919, with the diagnosis of "iritis." Physical examination negative except for great destruction of bone about all teeth and a number of apical abscesses (see Fig. 5). Extracted by Dr. S. C. Hatch and recovery. Notation from Dr. W. J. Bussey, his eye surgeon, 9-20-19 "patient has had no trouble since July 1st.



Eight other abscesses present in case No. 5.

Fig. 5.

Gastro-Intestinal Disturbance.

Case VI. Miss C. L., age 24, consulted 8-24-1919, complained of "nervous dyspepsia for years." Six years prior had had appendix removed and a repair of the ileocecal valve with no change in her complaint. Physical examination revealed nothing except what the radiograms of the third molars showed, namely, four badly impacted teeth (see Fig. 6). They were removed by Dr. Wilkinson 9-1-1919 and she stated 9-24-1919 "am feeling better every day." I will see her once a month for the ensuing year, if she has no trouble then she will be discharged "cured."

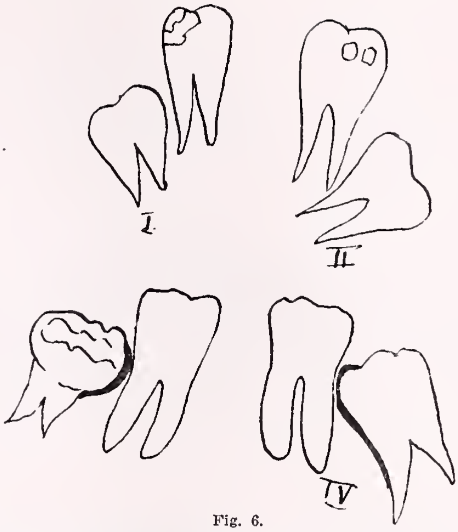
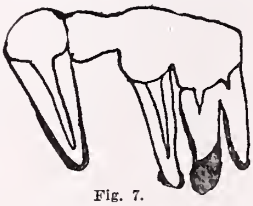


Fig. 6.

Four impacted third molars. Shaded areas were abscesses. Case. No. 6.

Urinary Bladder Disturbance—(Cystitis).

Case VII. Mrs. L. A., age 44, examined 6-21-1919, complained of "severe cystatic." Urinalysis of catheterized specimen revealed many pus cells and rod shaped bacilli. Cystoscopic examination by Dr. A. J. McLaughlin found as follows: "Simple inflammation of the bladder." Teeth X-rayed and four positive peridental abscesses about four dead teeth discovered (see Fig. 7), which resulted in the extraction of all dead teeth. Improvement began at once and one week later her symptoms had cleared up and the urine showed only an occasional pus cell in the voided specimen.



Practically all her teeth were like these at their extremities. Case No. 7.

Fig. 7.

Renal Disturbance.

Case VIII. Mr. A. J. B., age 44, examined at his home, 5-16-1916, had been ill two weeks with acute parenchymatous nephritis. Examination revealed a very marked case of pyorrhea, and several dead and abscessed teeth, which were thought to be the cause of the nephritic condition. Dr. DeWalt cleared up his mouth and a month later the patient was out of bed and at the end of six months the albumin quantity which had been four grams to the litre was merely a trace. (Esbach).

Neuralgia.

Case IX. Mrs. O. W. G., age 47, consulted 7-7-1919, complained of "dizziness and severe headache," also "poor vision." Physical examination was unimportant with the exception of dead and abscessed teeth (see Fig. 9). They were removed by Dr. A. Solvsberg and the patient's symptoms disappeared and remain so.

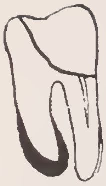


Fig. 9.

Two apical abscesses in mouth of this case. The cut shows abscess on root not filled. Case No. 9.

Headache, Neuralgic Disturbances.

Case X. B. Vt., age 35, M. M., consulted 7-26-1919, complaining of "headache, nervousness, pain in knees and hips—shortness of breath and swelling of hands." Physical examination was unimportant with the exception of a number of dead and abscessed teeth (see Fig. 10). The teeth were removed by Dr. L. M. Mahood, and the symptoms disappeared. The last item on his record card shows a gain of two pounds, no aches or pains.

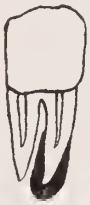


Fig. 10.

One other abscess similar to this was found. Case No. 10.

Neurosis.

Case XI. Mr. G., age 33, complained 9-8-1919, of "a cold in the head, nose running, sneezing, etc.," for months of May, June, July and August. Had been treated for "rose fever," "hay fever," etc. Physical examination as well as eye, ear, nose and throat examination negative aside from one dead and abscessed left upper central incisor (see Fig. 11), which was removed by Dr. J. H. Humphrey and the patient experienced immediate and lasting relief of all symptoms.

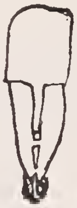


Fig. 11.

Note the filling protruding into soft part and the peri dental abscess. Case No. 11.

Myositis.

Case XII. Mr. G. C., consulted 10-4-1919, complained "stiff neck," diagnosed "wry-neck," involving right trapezius muscle secondary to a dead and abscessed right lower molar (see Fig. 12). Extraction followed by recovery.

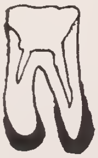


Fig. 12.

Two well defined abscesses. Case No. 12.

Blood Pressure Disturbance.

Case XIII. G. W. D., age 54, examined 1-9-1917, complaining of dizziness. His systolic blood pressure was one hundred and sixty-five, and a number of granular casts were found in the urine. In his mouth a dead and abscessed left upper third molar was found. Extracted by Dr. S. C. Hatch the same date. He was discharged 2-13-1917, systolic pressure one hundred and forty-five. Urine negative and "feeling good." The accompanying photograph (Fig. 13) shows why such a large peridental abscess developed about this tooth.

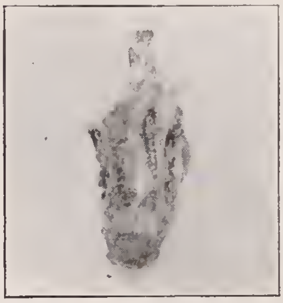


Fig. 13.

Fig. 13. Shows peg protruding into the soft tissue, the cause of the large abscess present. Case No. 13.

Blood Sugar, With Reports of Cases.

Miles J. Breuer, M. A., M. D., Lincoln.

In reporting the following cases, the writer has taken the liberty of departing slightly from the conventional history form, in order to emphasize the importance of blood-sugar determinations in this class of cases.

1. Harold B., age 12, on whose urine a routine examination was made during an attack of tonsilitis. When he was first seen, his temperature was 102.5°; he complained of headache, general malaise, and sore throat. The duration had been about 36 hours. The right tonsil was very much enlarged and reddened, with white patches over it. Culture revealed the presence of streptococci. The urine examination was as follows: Specific gravity 1.030, reaction acid, no albumin; sugar present by Benedict's test. Routine care was given, laxatives, salicylates, painting with silver nitrate, and rest in bed. The fever subsided completely in about two days, and in four days the throat was clear. It was about a week before the patient rose from the bed; then he appeared weak and listless. On the third day of the illness, another specimen of the urine was reduced by Benedict's solution. The presence of dextrose was therefore verified by the fermentation test, and the osazone crystals identified microscopically after treatment with phenylhydrazine. Two more tests on successsive days gave the same result. He was then put on a strict diet, modelled after the Allen method; arsenic was also given. He was free from glycosuria on the fourth day after the strict diet was begun. In view of the bad prognosis of diabetes at this age, it was considered wise to warn the par-

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*Read at a meeting of the Lincoln Academy of Medical Science, November 6, 1919.

ents of fatal possibilities. The carbohydrate content of the diet was then gradually raised, until within four weeks he was eating an ordinary diet. Sugar did not reappear in the urine. Since then, the patient has been under observation for two and a half years, with urine examinations first at intervals of a month, and later, of three months. At no time has sugar reappeared in the urine

The blood-sugar determinations on this case never gave a higher result that 0.15 at any time. The determination on the third day of the illness gave a percentage of 0.15; after five days of strict diet it fell to 0.08 percent, and later rose gradually to 0.15 percent.

This case, therefore, does not represent diabetes with a wonderful cure. It was never diabetes at all, and the prognosis is good, with no reason for believing that the glycosuria will ever return. The strict diabetic diet was made use of as an experiment; no other line of treatment has been suggested or worked out. It was thought that if the blood sugar content was brought down very low by this diet, and a rest given to the kidney epithelium, which was for some reason abnormally permeable to sugar, it might have a favorable result on the condition.

Case II. Mrs. K., age 44, the wife of a farmer. She presented herself complaining of pruritis vulvae. The patient was rather obese, but otherwise well developed; had not lost weight; appetite was not abnormal, and thirst was not abnormal. No abnormality of amount of urination noted. Menstrual history negative. The patient was just about through the menopause; had borne four children all of whom were living and well. The physical examination was negative except for a bad set of teeth, with several decaying roots. The skin about the genitals was reddened.

The urine was at once tested for sugar, and was found to reduce Benedict's solution. Calcium oxalate crystals, and a specific gravity of 1.030 were the only other noteworthy findings. The red cell count was 5,400,000, and the white cells 14,000. The blood-pressure was 100-140. The reducing substance in the urine was identified as dextrose by the fermentation and osazone tests. Daily examinations for four days gave the same results with Benedict's solution.

The patient was advised to have her teeth cared for immediately and did so. Eleven teeth in all were extracted, and plates made. She was likewise placed on a strict diabetic diet. The sugar disappeared from the urine on the fifth day. The carbohydrates of the diet were gradually replaced, and in four weeks she was on a normal diet. At the end of this time, the dental work was almost completed. Her red cells were 5,480,000, and while cells 8,000. Urine examinations have been made eight times during the last twenty-six months, and at no time has sugar been found. The pruritus disappeared about ten days after the institution of the treatment and did not reappear.

Upon the first examination, the blood sugar content was 0.17 percent. This test was made about three hours after a meal, and perhaps included the end of an alimentary hyperglycemia, for in none of the other tests which were taken before meals, was a higher percentage than 0.13 found. Strict diet brought the blood sugar down to 0.06% in the fifth day, after which it rose to a maximum of 0.13 and an average of 0.12% during the two months after her resumption of normal diet.

This is again a case with glycosuria which was not diabetes, though one of the characteristic clinical symptoms of diabetes was present. The conditions in this case and the preceding one, are illustrated in the diagram in Fig. 1.

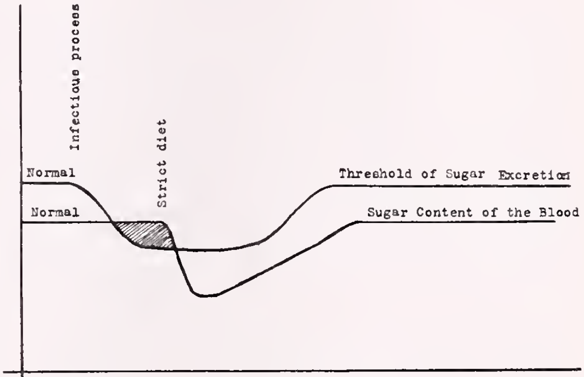

Fig. 1.

Case III. Mr. B., age 60, retired farmer. The patient was first seen in coma. His history up to that time was that he had rapidly lost weight. Repeated examinations of the urine for sugar with Haines' solution were negative but albumin had always been present. Tuberculosis was suspected, but appeared unlikely on account of his age. One month before, gangrene of the right foot had appeared quite suddenly, and the foot was amputated in his home on the farm by his family physician. The healing of the stump was very slow and unsatisfactory.

When the patient was first seen, he was breathing rapidly and deeply. The skin was warm and moist, the pupils dilated, and the breath had the odor of acetone.

I was inclined to disagree with the diagnosis of uremic coma. Two pints of 5 per cent solution of sodium bicarbonate were given intravenously, and the same amount introduced per rectum. The intravenous alkali was repeated in two hours. Purgatives were given and sweating produced at the desire of the family physician. In four hours, the patient gradually began to recover consciousness. The administration of alkalies was then continued by mouth.

At this time the patient was brought to a hospital. A specimen of the urine was found to have a specific gravity of 1.010, strongly acid, no sugar, a heavy ring of albumin, pus, and casts granular and hyaline. The carbon dioxide tension of the alveolar air was at this time ten per cent. The red cells were 3,500,000, white cells 12,000; blood pressure 115-170. The blood-sugar percentage was 0.23. Daily determinations of the blood-sugar for the next four days were 0.26, 0.24, 0.28 and 0.22. The urine continued to have a heavy ring of albumin, and to give negative reactions with Benedict's solution, and the specific gravity remained at 1.010.

He was placed on a strict diet, and in seven days the blood-sugar percentage dropped to 0.17. At this time, however, acetone, which was not present before, appeared in the urine. On the eighth day after beginning the strict diet, he complained constantly of severe pain in the epigastrium. The CO_2 tension of the alveolar air was 15 per cent. Alkalies were started on the eighth day, but that evening he went into a coma from which he never recovered. There were no convulsions; the breathing was rapid and gasping, with all evidence of air-hunger, and the breath had the odor of acetone. The patient died after about 24 hours of coma.

In this case, the high blood-sugar percentage established the diagnosis of diabetes, in spite of the absence of sugar in the urine. The clinical characteristics of the coma, the odor of the breath, the air-hunger, the high percentage of CO_2 in the alveolar air, and the response to alkali, confirm the diagnosis of diabetic, rather than uremic coma. However, the albumin in the urine, the low specific gravity, pus, and casts, and high blood-pressure, also gave evidence of nephritis. The probability is that the diabetes was the primary condition; and that had his urine been tested early enough, sugar would have been found. When nephritis supervened, the threshold of excretion was raised, and the glycosuria stopped. The diagram in the second figure will illustrate the conditions of this case, where a diabetes existed without a glycosuria.

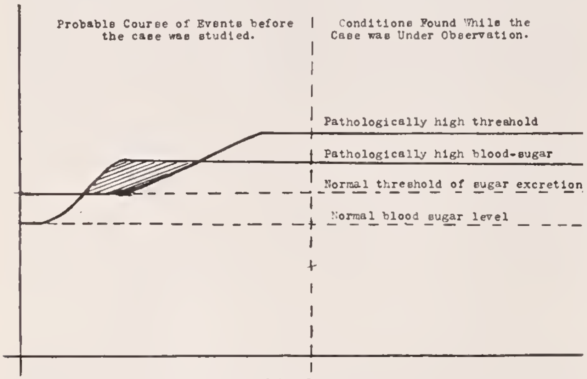

Fig. 2.

It is possible that this patient's life, and even his foot, could have been saved, if blood-sugar examinations had been made at the time that the possibility of diabetes was dropped from consideration because of the absence of sugar in the urine.

Case IV. Mrs. B., age 28, farmer's wife, married seven years, no pregnancies. She and her husband present themselves for cause of and remedy for the sterility. The patient was about 5 feet 4 inches high, and weighed 160 pounds; her fat was very firm and the skin was stretched tight over it. Her face was fiery red, and had always been so. The wide eyes, thick lips, small chin, large cheeks, and flat nose, are of interest, in view of the condition mentioned later. Her manner and actions were somewhat childish. The pubic hair was small in amount, the uterus infantile, and external genitals undeveloped. An X-ray picture of her sella turcica was desired, but at this time she was unwilling to have it made. A routine examination of her urine revealed the presence of sugar. She was unwilling at this time to undertake the diabetic regime, but was warned of the symptoms which would make treatment necessary.

She returned two years later, and on first glance, it was aparent that she had lost much flesh. Her weight was now about 135. The diagnosis of her family physician was diabetes. The urine reduced Benedict's solution, and the reducing body was identified as dextrose by the fermentation and osazone tests. The specific gravity was 1.038; no acetone bodies, no albumin were present. The percentage of sugar in the urine was 1.2; in the blood, 0.29.

She was placed on a strict diet, and the sugar disappeared from her urine in nine days; the blood sugar dropped to 0.22. Acetone bodies were present on the sixth, seventh and eighth days, and then disapeared. Much difficulty was experienced in keeping the patient on the diabetic diet; she could not be made to grasp the idea nor the necessity of strictness. However, on the thirteenth day her blood-sugar fell to 0.17, which may possibly be considered as normal. The strict diet had been continued for five days after the disapearance of glycosuria, on account of the persisting hyperglycemia. As carbohydrates were added to her diet, her blood-sugar went up.

She was under our observation for a year after this time, but would never consent to remain long under treatment at a time. Never again did her blood sugar content go as low as 0.17; usually it was over 0.20. However, sugar was not always present in the urine, and when it appeared, moderate restriction of carbohydrate would cause it to disappear. Most of the examinations of the urine made during this year, however, revealed the presence of sugar. An X-ray picture of the sella turcica was finally obtained, and its diameter found to be 7 mm.

The physical condition of the patient grew constantly worse. The last time she was seen she weighed about 115 pounds. Her face appeared puffy, but was still fiery red. Her blood sugar was 0.22 per cent and the urinary sugar, 1 per cent. This patient has now been lost track of.

It is to be regretted that this patient was not under better control, in order that her metabolic condition might have been more thoroughly worked out. It is possible that her fault in sugar metabolism had some connection with the pituitary disorder. These facts however stand out: there was a high degree of hyperglycemia, accompanied by glycosuria. Moderate restriction of diet caused a disappearance of the glycosuria, the hyperglycemia however persisted and required severe and continued diet restriction to affect it. Although little enough was accomplished therapeutically in this case, nevertheless it is manifest that if treatment had been based on urinary sugar, it would have been blind and useless.

A resume of the present knowledge of the relation and distinction between glycosuria and hyperglycemia may be in place here.

Glycosuria without hyperglycemia may exist in cases of low permeability of the kidney to sugar, the pathological basis of which is as yet unknown. A similar condition may be caused experimentally by the administration of phloridzin.

Glycosuria may co-exist with and be the result of hyperglycemia, without being diabetes, in the case of alimentary glycosuria, hyperthyroidism, pituitary diabetes, and the experimental condition known as puncture diabetes.

On the other hand, diabetes may exist with a high degree of hyperglycemia, without any glycosuria. This may obtain in the case of a normally high renal threshold, where the blood-sugar percentage may rise to 0.20 before the kidneys permit the escape of sugar in the urine; or nephritis may supervene, as in Case III, and raise the permeability of the kidney epithelium to sugar.

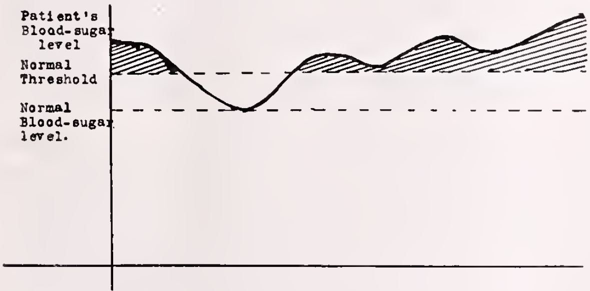

Fig. 3.

The knowledge of the blood-sugar percentage is important for the purpose of controlling treatment. It should be kept in mind that the sugar in the urine is merely an overflow. It appears when the concentration of the sugar in the blood is so high that the kidneys can no longer hold it back. The exact point where this occurs depends quite as much upon the idiopathic or pathological condition of the kidney, as upon the body's sugar metabolism. This exact point at which the kidneys permit sugar to escape, has no essential relation with or bearing upon a diabetic state or the degree thereof. The amount, presence, or absence of sugar in the urine is no index whatever to the presence or absence of diabetes, to the progress or success of treatment, or to the danger in which the patient stands from the disease. The real concern of the patient is not in the amount of sugar escaping in the urine; but (1) in the failure of the body to store up the ingested sugar in the form of glycogen, as a result of which failure there is an unsteady, frequently failing supply of fuel to the energy-consuming tissues, a loss of weight, a lack of reserve against times of increased need, and a lowered resistance to infection, both acute and chronic (note the common occurrence of furunculosis and tuberculosis among diabetics), and finally the gangrene; and (2) the poisonous by-products of the imperfect oxidation of fats and proteins which are used to replace the carbohydrates, and the resultant dangers from acidosis and coma.

Therefore, in treatment, it is the blood-sugar that should be watched, as an index of the effects of therapeutic measures. While from a theoretical standpoint, the blood-sugar is not an ideal index of the state of the diabetic condition, it is nevertheless a fairly accurate and satisfactory one for practical purposes. By following up the blood-sugar content, we can avoid, on the one hand, the unnecessary dietary restriction of glycosuric individuals who do not have diabetes. This restriction is not merely a matter of inconvenience, for the diabetic diet is not the best one for keeping up health, strength, and resistance; it is merely making the best of a bad state of affairs. On the other hand, by controlling the blood-sugar, we will avoid the dangers of insufficient strictness, because it is frequently the case that sugar disappears from the urine before the blood-sugar has gone down to normal. Thus exposing a patient to the dangers of diabetes is malpractice morally if not legally, since it is so easy to determine the blood sugar.

The micro-chemical method of Kuttner-Leitz is the one used in our laboratory. This test can be performed with only slightly more inconvenience to a patient than a blood-count, and entails only very little more work in the laboratory than does a careful blood-count.

Blood Chemistry and Its Clinical Significance.

M. G. Wohl, M. D., Omaha.

Chemical analysis of the blood has for many years attracted the attention of both clinician and laboratory worker; however the methods employed were so complicated and time consuming that they never became part of the clinician's armamentarium.

In order that a laboratory test shall stay it must be simple, easily executed and prove of some aid to the practitioner, either in diagnosis, prognosis or in the management of his case. The advent of the modern methods of blood chemistry has met these prerequisites and there is no doubt that they will find a permanent place in practical medicine.

A great number of these tests have been used. It is the purpose of the present communication to select those that are most satisfactory for ordinary clinical work and to touch upon their practical significance.

Sugar: It will be necessary to outline briefly our present conception of carbohydrate metabolism. The carbohydrates are chiefly absorbed as glucose, levulose and galactose. After digestion the carbohydrates find their way into the blood, where they are found normally about 0.1 - .15%. In a series of eighteen normal individuals we found the blood sugar varying from .12 - .17%. The sugar in the blood is found in a free state and not in combination with the proteins, as believed heretofore (1). When the sugar thus carried is brought to the liver, the latter picks out the glucose, levulose and galactose and converts them into glycogen, which is stored in it. During fasting glucose is called upon and is more or less completely consumed.

Glycogen is converted into glucose in the liver during digestive rest when the liver is deprived more or less of its oxygen. Another source of sugar is the end product of proteins, amino-acids, which become converted into glycogen.

When the level of sugar in the blood rises above normal, we speak of hyperglycaemia. The sugar in the blood is influenced by many factors. Thus we have (1) physiological hyperglycaemia, such as found in alimentary, and emotional disturbances and exposure to cold; (2) pathological, as in conditions involving changes in the glands of internal secretion such as the pancreas (diabetes), certain hepatic diseases, cerebral injury, etc. (2)

Under such conditions hyperglycaemia usually spells glycosuria. This fact seems well recognized. However glycosuria is not always the expression of hyperglycaemia.

As you know, the normal urine contains less than .1% glucose. When the kidneys show a greater permeability for sugar, glucose appears in the urine without a true disturbance of carbohydrate metabolism. Cases of glycosuria due to increased permeability or so called "renal diabetes" are rather uncommon. They are most often diagnosed as mild diabetes, for in the majority of cases the finding of sugar depends upon the examination of urine alone. Owing to improved methods of blood chemistry, we can differentiate these cases from true diabetes.

The renal threshold for glucose, which is usually about .17% of concentration (by that we mean that the average individual will begin to excrete sugar in the urine only when the blood sugar reaches above .17%) is low in these cases and this can only be determined by chemical analysis of blood.

McLean (3), Meyers and Bailey (4) have emphasized the fact, that cases of diabetes associated with nephritis, or patients in coma may show very little sugar or no glycosuria, while the blood will reveal a marked hyperglycaemia. It is through estimation of the blood sugar that valuable information may be obtained in these cases.

The determination of sugar in the blood, I believe, will never replace the time honored Fehling's test for sugar in the urine as a routine measure, but it will find its usefulness in special conditions just mentioned, as well as in the starvation treatment of diabetes. The object of this method as you well know, being to keep the patient free from hyperglycaemia. However, in many cases, where there is considerable glycosuria, the excretion of sugar in the urine continues long after the blood sugar has fallen below the level at which it first appeared, so that when sugar is first detected, e. g., when the blood is about .17% or higher sugar may still be excreted after it has dropped to .1%. This point was impressed upon us recently by a case of diabetes.

Dr. L., dentist, 35 years of age, had diabetes for the last two years. He came to our observation in November, 1918. His urine at this time contained 1.6% sugar; blood

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*Read before the Missouri Valley Medical Society, Sept. 18-19, 1919.

.19%. He was placed by his family doctor on the Allen treatment. During this time the blood sugar fell to the level of .11%, yet the urine continued to show 1% of sugar.

When diabetes is associated with nephritis, the output of sugar is diminished in the urine. In chronic nephritis, on the other hand, the sugar in the blood may be increased without the appearance of sugar in the urine.

There are also cardio-renal cases, as was pointed out by Williams and Humphrey (6), that excrete sugar in the urine. Their blood sugar may be at a normal level or higher. The blood sugar level, however, remains uninfluenced by carbohydrate restriction in the diet. Such cases are being subjected unnecessarily to sugarless diabetic treatments without the least influence upon blood sugar.

The principle of estimation of sugar in the blood depends upon the fact that a very small quantity of glucose produces with picric acid and sodium bicarbonate a red color. About 5 cc. of blood is drawn into a test tube containing three drops of a 20% solution of potassium oxalate. To 2 cc. of this we add 8 cc. of water and 0.2 gms. of picric acid and stir. The yellow clear serum is filtered off and to 3 cc. of this we add 1 cc. of 20% sodium carbonate and the solution is heated for fifteen minutes and cooled, and estimation is made upon Hellige-Colorimeter.

Non-Coagulable Nitrogenous (Non-Protein) Products of Blood.

A routine examination of the urine may reveal the existence of a kidney lesion and at times the nature of the same. But far more important is the determination of the functional capacity of the kidney which by an ordinary chemical or microscopical urinalysis cannot be revealed. To illustrate this point let us take for instance, diseases of the lower urinary tract, particularly the enlarged prostate, stone in the ureter and stricture of the urethra. There we invariably find some destruction of the parenchyma of the kidney and usually there is an accompanying infection: pyelitis, pyelonephritis, cystitis; the urine showing albumen and sometimes casts. How much information can we get from an ordinary urinalysis? The output of urine may be normal, the albumen may come from the cystitis or kidney and yet the patient be on the verge of functional failure. If operative procedure is considered, our aim should be to ascertain whether the kidney has sufficient reserve to meet the added load, made upon it by surgical interference.

In connection with this an investigation by Thomas (8) is very interesting. He finds that the mortality from nephrectomy and prostatectomy in the hands of the general surgeon is 25.9% and 22.5% respectively, as contrasted with 7.7% and 4.33% in seven times the number of operations by eight of the world's most noted urologists. In other words, this means that in a large majority of such operations, from 75% to 80% of deaths are avoidable, if the kidney function is ascertained before the operation. According to Rowntree (9) cases of low renal function should be put on drainage treatment and re-tested from time to time. When the functional ability in the kidney is improved the surgical treatment is much more likely to be successful.

Or take, for instance, nephritis of childhood. A child recovers from an acute attack of nephritis. The patient may carry little albumen and occasional casts for months. What is the prognosis in such a case? Can a routine urinalysis tell us whether the child will ultimately recover or the disease will advance and finally prove fatal in a few years? Since, as you know, many children may entirely recover after one or more years of albuminuria, while others will develop Bright's disease and die within a few years. The estimation of the functional capacity of the kidney, plus the clinical side of the case, will aid us in making a more intelligent prognosis than a chemical and microscopical urinalysis alone.

Among the modern methods employed for estimation of renal function, the various dyes, indigocarmin, phenol-sulphonpthalein, etc., have found a field of usefulness, the latter being particularly valuable in childhood. However, there are cases with distinct kidney lesion accompanied by hyperfunction and in these cases the phenolsulphonpthalein is very misleading (10).

In estimating the renal function one ought to take into consideration the vital function of the kidney to maintain the equilibrium of protein metabolism, and if we can ascertain any deficiency of the kidney in removing waste nitrogenous products we have at our command the most accurate possible index of kidney function.

The index of waste nitrogenous products circulating in the blood is represented by urea nitrogen, uric acid, creatin and creatinine. The normal amounts are as follows:

ADULTS		CHILDREN
Total nonprotein nitrogen	25-35 mg. per 100 cc.	20-34 mg. per 100 cc.
Urea nitrogen	12-18 mg. per 100 cc.	12-15 mg. per 100 cc.
Uric acid	2.5 mg. per 100 cc.	0.6-2.5 mg. per 100 cc.
Creatinine	0.8-2 mg. per 100 cc.	0.58-3.44 mg. per 100 cc.
Sugar as glucose	0.8-1.5% mg. per 100 cc	0.8-1.5 mg. per 100 cc.
Chlorides as NaCl	0.65% mg. per 100 cc.	Phenolsulph 75%.
Cholesterol	0.15%	Below 60 is abnormal.

Urea is the principal end product of protein metabolism. Urea nitrogen in normal individuals constitutes about 50% of the total nonprotein nitrogen of blood, and 85% in the urine. It is well known that concentration of urea in the blood and its output is greater after excessive protein consumption. The body does not store excess of protein like fat and sugar except in very limited quantities. Instead of storing the excess, the nitrogen is split off from amino-acids, converted into urea and excreted, while most of the carbonaceous part of the amino-acid molecule is converted into glucose or fat and stored in that form. Urea (CO NH_2) is formed partly from ammonia (carbonate) (NH_4 $2CO_3$) which is set free during digestion and absorption of protein food, and partly from amino-acids such as leucine, glycocol and asparatic acid. The formation of urea probably takes place in every cell of the body but its greater bulk is formed in the liver.

A decrease in the excretion of urea (normally about 30 gm. per 24 hours may be the result of a small intake of protein. The amount of urine in such cases is diminished 300 - 500 cc. per day, urea acting as a diuretic. The concentration of urea in the blood then is proportionately diminished. The elimination of urea may also be diminished as the result of changes in excretion as in kidney disease. However, the concentration of urea in the blood is increased. Urea constitutes one of the earliest substances retained in deranged kidney. When uremia is approaching urea and creatinine are increased far in excess of the normal; the former reaching as high as 300 mgm. The estimation of blood urea would then be of particular value in cases of chronic nephritis.

While everything in these cases may seem to go on evenly on the surface uremia may supervene. Frequent blood analysis may warn both patient and physician of an impending uremic attack.

Rowntree cites a case of a little boy clinically a case of diabetes insipidus with good prognosis. Blood analysis changed the diagnosis to secondary contracted kidney with impending uremia. This diagnosis was proven at autopsy in two weeks (11).

The determination of urea is also of value in checking up the results of drug and diet in chronic nephritis.

Ambard coefficient· The ratio between concentration of urea in the blood and its elimination in the urine has been extensively studied by Ambard and Weil (12), and is expressed by a coefficient which in healthy individuals is 0.080. In renal deficiency the coefficient rises.

McLean (13) has simplified Ambard's formula and places the normal to a coefficient of 100 with lower readings obtained in deficiency of kidney.

From our own though limited observations with the coefficient we find that the total nonprotein nitrogen and urea of the blood, which are much easier to estimate, give equally valuable information. The principle of urea estimation depends upon conversion of urea into ammonium carbonate by means of urease of the soy bean and the determination of alkalinity before and after conversion by means of a standard acid and indicator (14).

Uric acid in the blood varies from 1 to 3 mgm. per 100 cc. of blood. In lead poisoning, gout and nephritis it is increased.

Creatinine: Of far greater prognostic value is the estimation of creatinin in the blood. Creatinine is most readily eliminated of the three nitrogenous products: uric acid, urea, and creatinine. Therefore, an appreciable retention of creatinine indicates a grave impairment in the functional condition of the kidney. The amount of creatinine excreted is constant for each individual, unlike urea being independent of protein intake.

Creatinine is formed in all of the tissues from creatin. Creatin is found in the urine of boys up to seven years of age, and after this age it disappears. Girls continue to secrete creatin until puberty. It appears in the urine of women at every menstrual period. In fasting creatin reappears in the urine. In nephritis creatinine retention forms part of the general retention of nitrogenous substance in the blood. In eleven out of thirty nephritic patients studied by Myers and Loegh (15), they found a retention of 5 mgm. of creatinine per 100 cc. of blood, and all eleven terminated fatally. From a clinical point of view they consider a case with a creatinine content between 2.5 and 5 mg, as having unfavorable prognosis, and those with 5 mgms. as fatal.

Conclusion.

1. The modern "microchemical" methods of blood analysis are practical and of value in clinical medicine.

2. The determination of sugar in the blood is necessary for differentiation of the types of glycosuria.

3. The estimation of nonprotein nitrogen products in the blood is of great aid in prognosis and management of renal cases.

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Autopsies.*

A. A. Conrad, M. D., Crete.

It seems to me that in medicine we are either pushing a proposition or neglecting it. Why should postmortem examination work be the proposition neglected as it is, except in medical schools and teaching hospitals? Is it due to the fact that we hate to work on the dead, or that we hate to ask the sorrowing relatives' permission to prove or disprove our diagnosis, or is it because we are unable to recognize morbid anatomy when we see it? Can it be that we are too self satisfied to take the time to prove or disprove our findings? If the dead who lie in our cemeteries today could have been tagged with a diagnosis and were still in such condition that autopsies could be held on them how many of those diagnoses do you suppose would hold water? Cabot says that less than 45 percent of the antemortem diagnoses are at autopsy found to be correct. It is rather humiliating for us to find that we have incorrectly diagnosed a case, but it is far better for us and the public, to admit the error and try to prevent its occuring again than to go on blindly making that mistake again and again.

Have you ever stopped to wonder where we would be as a profession were it not for our predecessors, such as Cohnheim, and the wonderful work they did in following their cases intelligently antemorten and then making postmortem examinations to see why certain signs and symptoms were produced? It was only by taking note of physical signs and symptoms in the diseased and then from postmortem findings trying to interpret and explain them that built us the foundation on which we stand.

Perhaps we are not so much to blame for neglecting autopsy work. In many medical schools very little attention is paid to this branch of medicine or if it is perhaps only one or two instructors follow up their work in this manner. The students look on them more as cranks than as scientific men and try to escape every postmortem they possibly can. If every instructor were a crank on autopsies the students would take a deeper interest. You seldom see a medical student who will not go a long way to see an operation. Why? Perhaps because there is work being done on the living and it is interesting to see live intestines manipulated, uterus or tubes removed, or some other piece of surgery done with benefit to the patient. While at autopsy they see a corpse stretched on the table, its trunk split from suprasternal notch to symphysis pubis, costosternal cartilages cut to enable the operator to raise a trap door that the heart and lungs may be examined. We hear the doctor say, "Here we have adhesions from an old pleurisy. On cutting the lung we find such a stage of hepatization," if it has been a pneumonia that closed the scene. We may be told there are calcarious deposits from a healed tuberculosis, or that the lungs are practically normal but the heart is enlarged or the muscle is flabby due to such and such degeneration, but we do not get a chance to inspect these tissues closely that we may obtain a better idea of them. Would it not be better for us if we could inspect these tissues and then have them prepared, sections made and examine them under the microscope? We certainly would have a much better conception of what pathology is. Perhaps we take notes on this autopsy that we may have the required number of records for graduation. We leave as soon as we can slip away because the entire proceeding is more of a punishment than any of our other work. We have profited a great deal by that demonstration have we not? Yes, we have not.

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*Read at the Saline County Medical Society meeting at Friend, Neb., Sept. 8, 1919.

When we get out into practice if we look back on what we saw there it is only to forget it. We say, "The people will not stand for it." Perhaps not. But why not? Simply because "it is not being done." The people must be educated to it just as the doctors must be educated to it. In fact it is much easier to gain permission for a postmortem from an intelligent family than it is from an ignorant one. In the Mayo Clinic and also in the General Hospital of New York, permission is received for postmortem in over 90% of deaths, while in Bellevue Hospital only 7% are autopsied.

At school we are compelled to give a written account of the ante- and postmortem findings on a specified number of cases before we can graduate. On the other hand we must not only give a written account on a certain number of obstetrical cases but we must actually deliver them under the supervision of a doctor. Why are we not required to do a certain number of autopsies under the supervision of a doctor and also give a written account as in the obstetrical cases? That would have made autopsy work seem a greater part of medicine. At the time I was in school we had only two teachers who took the time to do this work, and the peculiar part of it is that these two men were the busiest doctors on the faculty, and neither one was a surgeon.

I took my interne work in Saint Vincent's Hospital, capacity 480 beds, in Portland, Oregon, a city of about 300,000 inhabitants. On the staff and visiting list were 100 doctors. We certainly had plenty of autopsy material but seldom had a chance to make use of it because only a very few of the doctors seemed interested, and we had no place in which to hold autopsies. A short time before we arrived there a room had been prepared and Dr. Sommer, had intended to equip it as a first class autopsy room, but a short time before the equipment arrived about half of the mountain into the side of which the hospital is built, slid down into this room and crowded out everything else and the land slide was not entirely removed till a short time before we left. Dr. Sommer was continually haranguing the staff because postmortems were not being done in the hospital but with a few exceptions no interest was taken by the other members and this is a teaching hospital for the Oregon Medical College. To our knowledge Dr. Sommer was the only member of the staff who endeavored to follow his cases to the postmortem room and Dr. Coffey, of colectomy fame, said he considered him the best all around surgeon on the Pacific coast. We feel sure that in a considerable number of the deaths there, as elsewhere, an autopsy would have revealed interesting facts.

Last winter in Cook County Hospital of all the cases dying of influenza and post-influenzal pneumonia, cultures were made from the lung both ante- and postmortem. Results showed that previous conception of influenza was considerably wrong. Broncho-pneumonia was found to present deviations from our former line of teachings.

Do we gain much from a kidney dye excretion test if we do not go farther and examine the kidney postmortem? Of what good are our clinical findings if that knowledge is not based on a morphological foundation? Today with our knowledge of bacteriology, our dye excretion tests, our X-ray and other instruments of precision, we should be better able to pave the road for those who will follow us than those who went before could pave it for us. Those men built it for us; we must build for those to come.

Could not surgery benefit from postmortem study? I think that our surgical technic would improve if, when one of our surgical cases dies we would hold an autopsy, inspect the field of operation for faulty technic, degree and kind of healing, formation and distribution of adhesions. We would gain a personal knowledge of such conditions which would be of much greater benefit to us than the vague ideas we get from some other man's description of those findings.

Now to get down to us! How many of us keep case histories or records? Not very many. If we did we would be more anxious to check up our cases by postmortem. This, of course, only in cases that do not get well. It is considered bad form to try to make autopsy material out of every patient. We satisfy ourselves by thinking we can find a satisfactory explanation in our books for certain signs and symptoms. Take two cases of gastric carcinoma; one vomits and the other does not. Why does one vomit, the other not? The books say it depends on the location of the cancer. Do a postmortem and see for yourself. We often hear a doctor say, "I certainly would like to see a post on so and so." But he seldom sees it because he lacks the nerve to ask for it. He expects to be refused, takes it for granted that he will be refused, and if he does ask he does it in such a tone that the relatives find it rather easy to say "No." If we take our history, symptoms, physical findings, laboratory tests, treatment and course of each case, put them on paper and file them away, then in case death closed the scene and we could gain permission for an autopsy we could check ourselves up and endeavor to account for our antemortem findings. Would not our own personal observation do us, and ultimately our clientele, a greater amount of good than if we read up in books the causes of our symptoms, which nine times out of ten we do not do? Get all the people educated and all the doctors educated to the need of the knowledge to be gained from a properly conducted autopsy and medicine will progress much faster and we will be better able to handle our end of the numerous problems that arise, and each doctor will derive special benefit from his own work.

I have here the history and postmortem findings of one of my cases. The record of the autopsy was taken by Dr. Quirk, and I wish to again thank him for taking and typewriting it for me. I also have a few relics formerly owned by Mrs. Barbara M.

The History of Illness.

I first saw her November 26th, 1918. Her present illness started about a month ago with slight jaundice, loss of appetite, weakness, and slight pain in the right hypochondrium. Previous to this time she had been in very good health for one of her years, except for asthma which had troubled her for years, but which left her when the icterus developed. She had given birth to seven children, all healthy. Husband died a number of years ago with gastric carcinoma.

Patient was lying on a couch. The marked jaundice of skin, eyes, and even of the mucuous membrane was the most prominent symptom on inspection. Emaciation was pronounced. Pupils reacted to light and accommodation. A few teeth still remained. Pus could be pressed from the gum around them.

Heart and lungs were normal except that there was some acceleration of breathing.

Abdomen.

Considerably distended, flanks looked wide and were dull on percussion. Dullness shifted with position, tympany for three inches to each side of umbilicus in the dorsal decubitus. On palpation of the epigastrium a mass the size of a hen's egg was felt, not tender, slightly movable. Left hypochondrium normal, right hypochondrium contained a hard tender mass the size of a small orange, movable to the right and left, and moved with respiration. Ankles and feel oedematous.

Under treatment jaundice lessened and oedema of the feet practically disappeared. During the third week both symptoms became more marked and the abdomen begin to get tense, but did not interfere with breathing. On dry diet and salines oedema and ascites diminished and the jaundice became less. At this time the stools gave a strong test for bile and became more normal in color. Urine became almost bile free. Then she got progressively worse and on January 23, 1 was compelled to aspirate because of marked dyspnea, removing almost two gallons of the bile tinged fluid. Ascites did not return in sufficient quantities to demand another aspiration. January 30, she vomited for the first time. The emesis was typical coffee ground in character, small amount. She vomited two or three times during the night and died at 3 a. m. on the 31st of January having suffered very little pain.

Autopsy Record.

Autopsy held at 9 a. m., January 31, 1919, on Mrs. Barbara M., age 73, of South Main street, Crete, Nebraska. The body is that of a woman of advanced age about 5 feet, 4 or 5 inches tall, markedly emaciated and jaundiced. Abdomen distended, feet and ankles oedematous.

Incision from the suprasternal notch to the symphysis pubis, retracted and the costosternal cartilages cut and sternum elevated. Lungs apparently normal except for icteric hue and old pleural adhesions, especially at the apices.

Heart small, pericardium bile tinged, valves normal.

In the abdomen there were about fifty-eight ounces of bile stained ascitic fluid. Gall bladder was as large as a large orange. About 1½ inches from the fundus was a collar of carcinoma as wide as two fingers encircling the gall bladder. Within the gall bladder was pus and eight stones, one of which was lodged in the common duct. The wall of the organ was thickened about two or three times the normal, and ulcerated. Liver, mesentery, pancreas, and the first portion of the duodenum were studded with carcinomatous nodules. On the posterior portion of the stomach not far from the pylorus was an old ulcer, the size of a quarter of a dollar, greatly hardened and infiltrated with carcinoma but not in an active stage of degeneration. This was well up towards the lesser curvature.

Uterus and ovaries were very small and atrophic, normal for a woman of that age.

In our judgment the primary lesion was in the gall bladder and the involvement of the other organs was secondary.

Conclusions.

1. Autopsies are not given enough attention in medical schools, hospitals, or practice.
2. The public and the doctors should be impressed with their importance.
3. Histories and case records are not being taken by the majority of doctors. This should be encouraged if not required.

Roentgen Diagnosis of Malignant Bone Tumors.

S. A. Levey, Ph. G., M. D., Omaha.

The difficulty in the diagnosis of bone malignancy is frequently caused by a lack of the patient's detailed history. Too much importance cannot be laid on this point. The average physician looks upon the roentgenologist as an exponent of the photographic art and will neglect to furnish the necessary history, thinking it will be of no interest. Then too, the radiologist sometimes overlooks the importance of the history. So we have a double neglect leading to one end—inefficiency.

In dealing with malignant bone tumors we are concerned with the two types: (1) primary, and (2) secondary.

Primary bone malignancy, or sarcoma, is the more common. It may begin in the epiphysis of a long bone, in the shaft, or in the periosteum. The bones mostly involved are the long bones and the jaws. About 25% are found in the jaws. It is rarely found in the hands, feet and flat bones. The majority of these tumors develop between the ages of fifteen and twenty-five years, although they may be found in younger and older people. In adults and older folk the giant-celled medullary type predominates. The round or spindle-celled type is usually found in the young. It appears that the younger the patient the greater the malignancy of the tumor.

As an etiologic factor trauma plays a prominent part. Sometimes a bone cyst will degenerate into a sarcomatous mass. Sarcoma may start in the epiphysis and extend along the shaft of the bone.

In considering sarcomata they are generally divided into two major classes; the endosteal or medullary type, and the periosteal type. The endosteal type springs from the medulla. It involves and destroys the cortex early in its progress, replacing the destroyed bone with a material denser than that of a cyst, but lighter than true bone. Occasionally it undergoes central ossification, which is a pathognomonic sign.

The outstanding feature of sarcoma, is that it respects nothing. It destroys medulla and cortex alike. At the same time, however, there is an attempt at reconstruction of the bone due to the accompanying inflammation. This occurs synchronous with the sarcomatous disintegration. But the malignancy so upsets the natural course of regeneration, that there is no government of the repair. This results in a mass of mixed bone particles and lamellae. Nature's attempt to recalcify the cells not entirely disintegrated, is one of the first things noted. The ungoverned result is seen as bone spicules, lamellae, and trabeculae in all parts of the malignant area. Sometimes bony masses are noted. The walls of the tumor are quite irregular and hazy. Following the breaking down of the cortex this type will, in the advanced stages, change into the periosteal type and invade the soft tissues also.

The periosteal type very closely resembles proliferative periostitis. Starting in the periosteum, it seldom involves the cortex in the early stage. Frequently there is a history of trauma over the area of the tumor. After the initial stage, the cortex becomes involved and destroyed, but the same reparative process seen in the endosteal type occurs here, causing a number of bone spicules to be formed and thrown out at various angles to the shaft of the bone. This is nature's attempt to gain control of the situation and ossify the injured and destroyed tissue. Sometimes these spicules appear at right angles to the shaft. The ungoverned bone formations, spicules and lamellae, are interspersed throughout the tumor mass which extends into the soft parts and is of a smoky, foggy character, with irregular outline and with vague indistinct walls.

Secondary bone malignancy or carcinoma, is metastatic from the prostate, mammary gland, thyroid, kidney, stomach, bowel, etc., in order of frequency. The extension occurs either directly, as to the jaw from the lip, or to the ribs from the breast, or through the blood and lymph vessels. Frequently a pathological fracture will aid in the diagnosis. Here the previous history is all important. The pain which exists may be more severe than that caused by the primary lesion.

The particular seats of bone carcinoma are: the vertebral bodies, neck of the femur, ribs, humerus, fibula, frontal bone, tibia, ilium, radius, ulna, etc., in order of frequency.

The metastasis is first deposited in the bone marrow near the nutrient artery. Osteoporosis, or spongy absorption follows. There is an irregular spongy bone softening followed by absorption of lime salts and a resultant weakening of the haversian systems. These then break down, with a death of the bone. This osteoclasis is accompanied by an inflammatory process, with a marked periosteal reaction, with resulting osteogenesis. The carcinomatous honeycombing of the bone, with the irregular deposits of new bone, from the periosteal irritation, produces a mottled appearance not unlike "camouflage." Sometimes this osteogenetic process becomes predominant, when it will cause a thickened cortex and a correspondingly smaller marrow. Occasionally this results in an almost solid bone, with practically no medulla. As compared with sarcoma the carcinomatous tumor is usually smaller.

In conclusion the following characteristics of malignant tumors have aided in diagnosis:

1. They have an irregular outline with vague, indistinct walls.
2. The bone cortex is broken down early in tumor growth and by direct destruction, not by pressure.
3. Respects no part; invading and destroying both medulla and cortex.
4. If tumor is near a joint, the joint will be invaded.
5. A painful growth, relatively rapid, as compared to benign lesions.
6. Early involvement of periosteum, with continuous ungoverned efforts towards bone regeneration.
7. Form metastases.

General Anasthesia.*

G. W. Reneker, M. D., Falls City.

In surgical operations the choice of an anesthetic is naturally the first thing to be considered, and I believe that the anesthetist should when possible, always be given the privilege of examining the patient with the surgeon preliminary to the operation. The responsibility during the operation often times being greater on him than on the surgeon.

In some hospitals ether is used to the exclusion of all other anesthetics, while in others chloroform is always used unless especially contraindicated, when either ether alone or the ether-chloroform mixture is used.

Ether is a very diffusive liquid composed of 98% of ethyl oxide and 4% of purified alcohol. It is very inflammable and may take fire from the actual cautery as well as from a lighted candle.

Ether is eliminated slowly by the lungs and the kidneys, and the patient is not safe for several hours after eitherization.

Ether in the circulation is found to increase arterial tension and acts as a cardiac stimulant. The heart continuing to beat after failure of respiration.

Ether vapor is inhaled pure and when anesthesia is complete it nearly approximates the state of coma. Anesthesia is approached by three well defined stages. First, excitement; second, narcosis; third, insensibility and the reflexes are abolished. Carried further it ends in paralysis and death from failure of respiration.

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*Read at the Richardson County Medical Society, Jan. 2, 1920.

Ether in the beginning of narcosis is quite irritating to the air passages, and the anesthetist should always allow some admixture of air. Owing to this irritation of the bronchial mucous membrane, congestion of the lungs is likely to occur, especially if the patient is not kept warm during the operation.

Ether comes near being the ideal anesthetic for nose, throat and goiter work as narcosis is easily maintained through rectal anesthesia, which gives the surgeon a free hand without the interference of the anesthetist.

Bronchitis contraindicates the use of ether. Odema of the lungs is the frequent and immediate cause of death. Another class of patients in which ether should not be given is those suffering with arteriosclerosis for the reason that there is great danger of cerebral hemorrhage due to the increased arterial tension.

I might further add, don't give ether to a patient whose kidneys are diseased, nor to one whose pleural cavity is filled with fluid, and don't forget that ether causes death by respiratory failure, and that the color of the lips and ears is a better guide to the state of the blood than the radial pulse.

I believe that ether is the safest anesthetic, especially in the hands of the inexperienced, or by those who do not appreciate the responsibility they assume in producing narcosis.

Chloroform is composed of one atom of carbon, one of hydrogen, and three of chlorine, suspended in a one percent solution of pure alcohol.

It is the most pleasant, the most active and the most convenient anesthetic. However, its administration requires some skill and experience.

Chloroform narcosis lowers arterial pressure and is a cardiac sedative. It is eliminated by the lungs and kidneys. It must be administered very slowly and diluted with from 90 to 95 parts of atmospheric air.

It should never be given in the presence of a naked flame as it readily decomposes with the ultimate formation of hydrochloric acid. This accumulation of the acid in the atmosphere may be sufficient to produce severe bronchial irritation.

In the majority of cases of fatal chloroform narcosis the cause may, I believe, be attributed to carelessness on the part of the anesthetist. Ether acting more slowly is not so apt to catch him napping and therefore the mortality is lower when this anesthetic is used.

While attached to the Seventh U. S. Cavalry in 1893 I produced in succession chloroform narcosis 68 times, never changing to ether and without having to use tongue forceps, or resorting to artificial respiration. You no doubt are saying that these results were influenced by the fact that all of the subjects were hardly adult males. That was true, but I will at least partially offset that by telling you that most of the patients were alcoholics.

I have administered chloroform to many hundreds of patients in Falls City and Richardson county. I have given it for at least two-thirds of the doctors, as well as for many of the foreign surgeons from Omaha, Lincoln, St. Joseph and Kansas City. I have never kept any accurate data as to the relative number of times ether was used until 1916 when I produced narcosis 166 times, 165 of them being chloroform.

I have no knowledge of ever at any time asking the surgeon to cover his field of operation and turn the patient over to me in case of dangerous syncope or threatened collapse.

I have very many times with chloroform induced primary anesthesia for major operations lasting from forty minutes to one hour, and the patient would awaken, usually by the time the last suture was taken. This performance I have never been able to do with ether.

The longest time that I have kept a patient under profound chloroform narcosis was four hours and forty minutes. This case was a complete hysterectomy done in Falls City in 1910 by a well known Omaha surgeon. The patient came off the table in fair condition, and without any gastric disturbance, but died five days later from hemorrhage.

There are two things practiced by many anesthetists which are nothing short of barbarous. One, the use of the tongue forceps as a routine measure, and the other, testing the corneal reflex by touching that part of the eye with the finger. The former is seldom excusable, the latter never.

The proper manipulation of the throat muscles will practically always obviate the use of forceps while the pupillary reaction together with the respiration and color should suffice to let the anesthetist know whether his patient is ready for the knife or not.

I heard Dr. Judd of the Mayo staff at Rochester say at the Colonial hospital a few weeks ago, as he started to operate an under narcotized patient, that he regretted that there was no sign by which the anesthetist could tell in every case whether his patient was thoroughly narcotized and relaxed before the incision was made. There is of course no one sign by which the anesthetist can tell in every case and be sure that the patient isn't going to groan or perhaps struggle when the knife pierces the skin.

The pupillary action is not by any means constant, but taken with the respiration, color, and general condition of the patient, the anesthetist who is in constant practice will seldom be humiliated by having his patient struggle at the first incision after assuring the surgeon the patient was fully anesthetized.

There is nothing more satisfactory than to be able to give an anesthetic properly and with perfect confidence, and of course practice is the great factor in being able to do so.

In the beginning it is as a rule easy to gain the confidence of the patient by a few little instructions as to breathing, etc., and then by careful administration the stage of excitement may in many cases be avoided. Tact should be used here the same as everywhere. A good practice and one which is used in many hospitals is to begin the anesthesia with a small amount of nitrous oxide gas. This does away entirely with the stage of excitement and is much more expedient where there are a number of operations to be done. Often times in nervous individuals one quarter grain of morphia administered one-half hour before the patient goes on the table will facilitate the giving of the anesthetic.

In case of threatened collapse when the respiration or color is at fault often the mere removal of the mask and dropping the head over the edge of the table may be all that is required to restore the patient. In administering chloroform the mask should be removed every few seconds to enable the anesthetist to glance at the whole features of the patient, and if this habit is cultivated dangerous syncope will rarely happen. The wide pupil not reacting to light is of course one of the most reliable danger signals. The cyanosis and the cadaveric odor are other signs of danger. When these conditions exist the anesthetist should at once inform the operator and no time should be lost in instituting the usual methods of resuscitation. The patient should be put in the Trendelenberg position with the head dropped. Rythmic pressure over the cardiac area is first employed, and at the same time hypodermics of strychnia or atropine should be given. These efforts will usually be rewarded if instituted in time and persisted in, however should the patient fail to respond after ten minutes of work other means still remain at our disposal to restore the dead. Dr. Murphy of Chicago reported seventeen cases in which cardiac massage has been performed. This is best done through an incision in the abdomen, the surgeon grasping the heart through the diaphragm and making rythmic compression. This method obviates the necessity of creating pneumothorax by resecting the ribs.

Dr. Crile states that it is not enough to merely massage the heart back to action but that the respiration must at the same time be restored by artificial respiration and the vasomotor centers stimulated to renewed activity by an infusion of adrenalin in normal salt solution.

Don't get the idea under your hat that other people think as much of you as you think of yourself.

Many a man who imagines that he is a born leader isn't even a successful follower.

The secret of success lies in doing well what you can do and cutting out what you cannot.

According to the government Blue Book recently issued, this year's decrease in England and Wales in drunkenness was 37.35 per cent.

THE NEBRASKA STATE
MEDICAL JOURNAL

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Proposed Changes in State Administration of Medical Affairs.

The general desire for a more perfect constitution for the State of Nebraska which gave rise to the call for a Constitutional Convention to consider the redrafting of the present constitution afforded an opportunity to the medical profession to suggest proposed changes by which the laws pertaining to the practice of medicine could be brought more in harmony with present day ideas.

The matter was discussed by the Committee on Legislation of the State Medical Association, the retiring president of the Association, the incoming president and a few other physicians. It was the concensus of opinion that the subject be discussed by the Council of the State Association and that present day views of the subject be obtained from an authorative source. Accordingly Dr. Frederick R. Green of Chicago was invited to address the Council and Committee on Legislation and accepted.

The meeting was held in Lincoln on January 7, 1920, and was largely attended. The discussion was free and of such value that the general conclusions arrived at should be given wider publicity among the members of the State Association. The medical profession for years past has taken upon itself the burden of protecting the public from improper practice of medicine and care of the sick. It has made of itself a self constituted police force. Though this has been done with the best intent in the world, this intent has been misconstrued by the public and has been attributed to envy and jealousy of others, and the public has never taken the trouble or interest to inquire into the relative competency of the various parties in the controversies that have arisen. This attitude by the profession has been a mistaken one. It is not the business of the medical profession to protect the public; that rests with the public itself and is a function of the State, and the public should see to it that a person to practice medicine should be properly qualified exactly as it should and does see that an engineer or any other person who deals with the public is properly qualified and attested. With this in mind, the licensing of medical practitioners should be taken out of the hands of the medical profession and placed in the hands of a general licensing official who should be an educator and who should have jurisdiction not only over the medical profession but also over all professions and trades which come under state licensure. For the different boards the licensing official will have the power to appoint examiners who will report upon the efficiency of the various candidates. This being instituted and put in practice, the license to practice medicine is issued by the State of Nebraska and any subsequent divergence from the rules of practice established by the State or practiced without licensure, stamps the offending individual as a transgressor of the laws of the State and as such, subject to prosecution and punishment if found guilty, by the State itself and not by any organization within the State. This automatically takes the prosecution and conviction of illegal practitioners out of the hands of the medical profession, where it does not belong, and places it in the jurisdiction of the public where it should be. In order to bring this about it is necessary that this department of licensure be entirely separate from any other health function of the State and it was the majority opinion that this course should be recommended.

The public health should be administered by medical men or men specially trained as sanitarians and should have no connection whatever with the licensing board. The same condition should hold true for the Department of Public Institutions, which has to do with the care of the insane, feeble minded, blind, etc.

By vote of the Council of the State Association the matter was placed in the hands of the Committee on Legislation with power to place these views before the Constitutional Convention and submit to them a plan which would best fit in with their program and bring about the desired result. The Committee and Council also submitted the proposed ideas to the Governor, and they appeared to meet with his approval.

At a later conference, between representatives of the State Medical Association and members of the Constitutional Convention, the following proposal was drafted and submitted to the Convention:

"Governor's Cabinet, Secretary of Finance, of Agriculture, of Trade and Commerce, of Labor, of Public Works, of Public Welfare, Secretary of the Department of Public Institutions, to be appointed by the Governor with the consent of the Senate, to be removed by the Governor for cause, Secretary of Department to be supreme executive except in case of appeal to decisions from any bureau when decision of Secretary may be confirmed or vetoed by Governor, further appeal of course resting in appeal to the courts. Bureau to be appointed by Secretary of Department with the consent of the Governor. The Governor's Cabinet in addition to the executive duties of its members shall sit at stipulated times with the Governor in advisory capacity."

It is the opinion of those who have given the matter considerable thought that should this proposal be favorably received and passed upon by the Constitutional Convention and subsequently accepted by the people of the State, a great advance will have been made in the manner of administering medical affairs in the State of Nebraska.

Thief of Time.

Sixteen of the twenty-seven State Journals on exchange with our Journal contained a list of officers of their County Medical Societies in December. That has not been possible for us to date. Any county secretary who has not yet sent in 1920 dues and list of officers, should do so immediately.

A company of national reputation, using space in all the State Journals, asks why all the Journals do not publish on the same date, preferably the 5th to the 10th of the month of issue. It certainly would simplify matters greatly for advertisers if a uniform date for all Journals could be adopted. At present two Journals usually appear on the first day of the month. Others follow at different periods from the 5th to the 30th, while three Journals seldom reach this office before the 5th of the following month. That suggestion has the immediate support of the Journal Committee. Our agreement calls for publication on the 15th, but unfortunately we set the final date for receiving copy too near that period to permit of publication on time. Labor troubles, delays in the mail service, and sickness are occasional unavoidable conditions, but procrastination on the part of contributors in supplying original copy, and returning corrected proof, is a more common and avoidable cause of delayed publication. Advertisers prepare their copy for the first of the month, not for the last. If then, an advertisement does not appear till the last of the month, or even later, the patron is dissatisfied. Enterprising firms seeking advertisement in Medical Journals, select those with a record of promptness in issuing their Journal on time. The response from advertisers about renewal of contracts for 1920, at the old rates, and at the new rates beginning 1921, has been very gratifying, and no complaints because of increased rates.

Contributors, especially those to whom proofs of articles have been sent; county secretaries who are sending their reports for publication; and all others, who provide news matter for the Nebraska Journal, should take notice of our intention to bring the State Journal out promptly on the 15th of the month of issue, as hereafter we will not be able to guarantee that news matter which does not reach us on or before the 1st will appear in the Journal of that month. Don't procrastinate; otherwise news matter you send us will be omitted from the issue in which it should appear, as reading matter as well as advertisements is seasonable, and should be printed when timely. This will be the object of your Publication Committee.

Medical products not accepted by the Council on Pharmacy and Chemistry of the A. M. A. are not desired by our Journal. For other than medical products, the Journal Publication Committee reserves the right to use its own judgment with reference to accepting or refusing proffered advertisements.

Pin Pricks of Jealousies.

The well bred person of education has humanitarian ideas void of offense to his fellow-men. In the gloom so universally expressed by the death of Sir Wm. Osler we experience the heart satisfying attainments possible to every physician who may if he will, faithfully practice the golden rule. Never discourteous by word or act and ever striving by personal means to serve wherever and by whomsoever called, he constantly rose to distinguished honor by the physicians and laymen of two continents. It is never those of natural refinement and good education who project criticism, though the occasion for it may be most inviting. Their greatness is manifested by suggesting other lines of action as a possible means for obtaining results in an apparently good cause, honestly sought, yet not possible by the course pursued. Adverse criticism of plans initiated by another usually calls out antagonistic feelings, never productive of happy results. Medical men, above all people in professional or business life, can ill afford the practice of petty remarks and rancorous controversies on any questions incident to their daily duties. He who speaks, speaks twice. The words spoken convey his thoughts, but the tone in which they are uttered reveals the attitude of the speaker. Language being any means of communication between mind and mind, merits qualified attention to the proper use of it in speaking, but particularly in our writing, that misunderstandings may be minimized and friendships gained.

Bacillus Botulinus.

The recent appearance of botulism in a suburb of Detroit resulting in the death of five persons in eight of those who ate of ripe olives served, has created much discussion among non-medical people, and initiated systematic studies by scientific investigators to determine the cause. A few have spoken of it as "that new disease," disregarding the truism that "there is nothing new under the sun," or wholly ignoring that fact. In the Journal of the A. M. A., Volume 74, No. 2, Jennings and others present a clinical picture of the Detroit cases. They relate that up to October, 1918, there had been thirty reported outbreaks of botulism in the United States, with 104 cases and 73 deaths. The lethal character of that poison, with the evidence that it is most frequently found in ripe olives, suggests inquiries as to the methods for supervision and control in their preservation.

The report of sixty-two deaths of physicians recorded in the Journal of the A. M. A., Jan. 24, 1920, is a pertinent suggestion to young men desiring to ennoble their service to humanity by qualifying and entering the medical profession. During 1918 the deaths of 2,616 physicians in the United States and Canada, and during 1919 of 2,105, records a depletion in our ranks much below the increase of well educated men to supply the present demand for physicians. Heretofore we have regarded the functions of the physician as summarized in his care of the sick. Recent conditions call for medically trained men to render service in municipalities, state and federal positions, as sanitarians.

Annual Conference on Public Health and Legislation.

The following is a program of the annual conference on Public Health and Legislation, called by the Council on Health and Public Instruction of the American Medical Association, on Thursday, March 4, 1920, in the Auditorium Hotel, Chicago, Ill.

PROGRAM

MORNING PROGRAM

1. Call to Order, 9:30 a. m.
2. Chairman's Address, Dr. Victor C. Vaughan, Chairman, Council on Health and Public Instruction, American Medical Association.
3. Secretary's Report, Dr. Frederick R. Green, Secretary, Council on Health and Public Instruction, American Medical Association.
4. "Standardization of Public Health Activities," Dr. George E. Vincent, President, Rockefeller Foundation.
5. "Standardization of State Public Health Organizations," Dr. Chas. V. Chapin, Commissioner of Health, Providence, R. I.
6. "Standardization of Municipal Health Organization," Dr. Allen McLaughlin, Assistant Surgeon-General, United States Public Health Service.
7. General Discussion, opened by Dr. C. St. Clair Drake, Commissioner of Health, Springfield, Ill., and Dr. Ennion Williams, Commissioner of Health, Richmond, Va.

AFTERNOON PROGRAM—2 P. M.

Symposium on Health Education of the Public

1. "Health Education in the Public Schools—Thirty Years' Experience in Michigan," Dr. Victor C. Vaughan, Ann Arbor, Mich.
2. "Health Education and Activities in Colleges and Universities," Dr. John Sundwall, Director, Students' Health Service, University of Minnesota, Minneapolis, Minn.
3. "Health Education a Function of Municipal Health Departments," Dr. Haven Emerson, New York.
4. "Health Education a Function of State Health Departments," Dr. W. S. Rankin, Secretary, State Board of Health, Raleigh, N. C.
5. "Health Education a Function of the Federal Government," Dr. Chas. V. Bolduan, Director, Division of Public Health Education, U. S. Public

Health Service.

6. General Discussion, opened by Dr. John M. Dodson, Chicago; Prof. W. B. Owen, Superintendent, Chicago Normal College.

1919 Hospital Notes.

The Swedish Mission Hospital, Omaha

Patients received	1815
Deaths	65
Babies born	97

The Staff Officers for 1920 are: H. P. Hamilton, president; Joseph M. Aikin, vice president, and Paul H. Ellis, secretary. The members of the Committee on Interns are: A. J. Brown, R. W. Bliss and E. W. Powell.

The Nebraska Methodist Episcopal Hospital

Patients received	4314
Deaths	146
Births	138

The Medical Staff—Dr. W. O. Bridges, chairman, Dr. Clyde Moore, secretary—is working in accord with the A. M. A. plan for hospital organization.

Immanuel Hospital

Patients received	1218
Deaths	26
Births	22

Ford Hospital

Patients received	1400
Deaths	35
Births	108

University Hospital

Patients received	1576
Deaths	56
Births	82

Stewart Maternity Hospital

Patients received	150
Deaths	10
(6 still born, 4 died one to six hours old).	
Births	123

Norfolk General Hospital

Patients received	630
Deaths	13
Births	22

The State Hospital for Tuberculous at Kearney is filled to capacity.

The Republican Valley Hospital at Cambridge, Neb., has enlarged their staff to accommodate the increasing demand for hospital care of the sick.

It is reported that the Wayne, Neb., physicians are preparing to open a general hospital for surgical and medical patients.

Journal Committee Meeting January 7, 1920.

The Journal Committee met at 8:00 p. m. at the Fontenelle Hotel, Omaha. Chairman Long presided. Present: Drs. Long, Bailey, Bridges and Aikin, with Gene Huse and Dr. A. J. Brown by invitation.

On motion by Dr. Bailey, duly seconded by Dr. Bridges, it was ordered that we do not print any fee bills inasmuch as it has been decided they are illegal. Motion carried.

On motion duly seconded and carried Dr. Joseph M. Aikin was reelected Managing Editor for 1920, continuing the same arrangements as for 1919.

On motion duly seconded and carried, it was ordered that the expenses of the Journal and salaries of the Managing Editor and clerk be paid from the Journal Fund, but all other expenses of the office to be paid out of the General Fund of the State Association.

On motion by Dr. Bridges, unanimously seconded, the thanks of the Committee were extended to Dr. A. J. Brown for his counsel and assistance in preparing material for publication in the Journal.

On motion duly made and seconded the Managing Editor was instructed to enter into contract with the Huse Publishing Co. for printing the Journal during 1920 on the basis of a 15 per cent raise on our old rates. Motion carried.

On motion by Dr. Bailey, unanimously endorsed, the Committee expressed its appreciation of the good work done for us by the Huse Publishing Co.

On motion duly made the Managing Editor was instructed to say to authors that galleys must be returned to the Journal office on the date specified thereon, or their galley will be corrected and published as read in the Journal office.

The Journal Publication Committee reorganized by electing Dr. F. A. Long to succeed himself as Chairman for the calendar year.

It was suggested that the editorial office make a note of every doctor calling in the Journal office and print same as Personals in the Journal; also that a list of graduates taking the State Board examination be published in the Journal from time to time as they may be obtained from the State Board making such examinations.

On motion the Committee adjourned to meet at the call of the Chairman.

F. A. Long, Chairman.
Joseph M. Aikin, Secretary.

STATE NOTES.

Dr. S. J. Stewart of Hastings has moved to Beatrice.

Dr. Wm. L. Sucha of Hastings has moved to Omaha.

Dr. H. E. Mantor was a recent caller at the Journal office.

Dr. and Mrs. F. S. Owen are spending the winter in California.

Dr. Edwin G. Davis was a recent caller at the Journal office.

Dr. Newell Jones has recovered from a severe attack of thyroiditis.

Dr. L. V. Burstien has left Blair, Neb., and located at Los Angeles, Calif.

Dr. V. M. Boal, formerly of Auburn, Neb., has moved to Monrovia, Calif.

Dr. E. T. Manning had the grippe for a few days, but is at work again.

Dr. W. P. Wherry, Librarian of the Association, was a caller at the Journal office in January.

Dr. Chas. Zimmerer, a graduate of Creighton Medical College in 1916, has located at Du Bois, Neb.

Dr. L. R. McCormick, a graduate of the University of Nebraska in 1919, has located at Pawnee City, Neb.

Drs. Ewing Brown and W. F. Milroy of Omaha have returned from their vacation on the Pacific Coast.

Dr. A. B. Anderson of Pawnee City, Neb., an honored member of the profession, has retired from active practice.

Dr. John Lancer, formerly of New York City, has located in Omaha. He was a recent caller at the Journal office.

Dr. Edmund H. Lissack, who is seeking a location, called recently at the Journal office and was advised of several desirable places.

Drs. J. M. Patton, W. F. Callfas, J. A. Henske, J. M. Aikin and A. P. Overgaard are again at work after annoying but not serious attacks of grippe.

Dr. H. L. Wells of West Point has been recalled into the U. S. Public Health Service and given charge of the government hospital at Boise, Idaho.

Dr. Frank Tornholm of Wahoo sustained much loss of furniture, books, etc., when the building in which his office was located was destroyed by fire on Jan. 4, 1920.

The Committee on arrangements for the meeting of the Nebraska State Medical Association in Omaha May 24-26, 1920, is Drs. L. B. Bushman, R. W. Bliss and W. H. Pruner.

Western, Neb., is reported as being a splendid location for a well qualified physician to engage in the general practice of medicine. Address correspondence to Mrs. L. N. Smith.

The Journal has a request for two good physicians, to locate one in Colome, S. D., the other in Herrick, S. D. We are not advised to whom correspondence should be addressed.

SOCIETY NOTES

The Twenty-third annual meeting of the Elkhorn Valley Medical Society was held Tuesday, Jan. 22, 1920, at the Hotel Pathfinder, Fremont, Neb. The following officers were elected for the ensuing year: President, H. N. Morrow, Fremont; vice-presidents, W. J. Douglas, Atkinson, and G. E. Charlton, Norfolk; Secretary-treasurer, S. A. Preston, Fremont. The attendance was large, a good program was rendered and the fraternal feeling very manifest.

The Scottsbluff County Medical Society held its monthly meeting and banquet at the Gering Hotel, Gering, Neb., Jan. 13, 1920. The wives and friends to the number of 21 enjoyed themselves after which the meeting was called to order by Pres. C. R. Watson of Mitchell. A very interesting paper "The X-Ray as an aid to diagnosis" was read by Dr. Plehn of Scottsbluff, who also showed plates with the case histories.

The Nebraska-Iowa Pediatric Society met Thursday evening, Jan. 15, 1920, at the University Club, Omaha, Neb.

This Society was organized three years ago by physicians interested in Pediatrics. The custom is to meet the third Thursday in each month at 6:30, have dinner and then proceed with the program.

The paper of the evening was delivered by Dr. Newell Jones on "The History of the Contagious Diseases." The Doctor gave a very lucid description of these diseases from early times. This was followed by a general discussion.

The next meeting will be held at the University Club, Omaha, the third Thursday in February. The subject will be "The Diagnosis of the Contagious Diseases" by Dr. H. M. McClanahan.

Physicians interested in this branch of medicine are invited to attend. Reservations must be made by writing or telephoning the secretary not later than the preceding Wednesday noon.

Those desiring to become active or associate members are requested to communicate with the secretary.

Dr. J. A. Henske, Secretary.
505-509 McCague Bldg., Omaha, Neb.

MARRIED.

Dr. J. Lue Sutherland of Grand Island was married Dec. 21, 1919, to Mrs. Edna Bartlett Emley, daughter of Judge Edgar N. Sweet, formerly of West Point, Neb. They reside at 212 W. 7th St., Grand Island, Neb.

DEATHS.

Warwick M. Cowgill, Lincoln, Neb.; University of Louisville, Ky., 1883; aged 62; who limited his practice exclusively to diseases of the eye, ear, nose and throat; for many years opthalmic and aural surgeon for the Louisville and Memphis divisions of the Illinois Central System, at Paducah, Ky.; died in St. Elizabeth's Hospital, Lincoln, Dec. 29, from nephritis.

Dr. O. S. Wood, aged 88, died Jan. 11, 1920. He had resided in Omaha 52 years, and was in active practice 45 years. He was well known to the older people in Omaha as a highly respected physician and citizen.

Dr. L. C. Mead, aged 65, for twenty-eight years superintendent of the South Dakota hospital for insane, died Jan. 13, 1920, in that institution at Yankton. Though an invalid for five years he retained active charge of the institution until his death.

Dr. L. N. Smith, Western, Neb., aged 65, died Dec. 19, 1919, as the result of an automobile accident.

Our sympathies are extended to Dr. J. S. Foote of Omaha whose wife died recently. She was buried at her former home in Naugatuck, Conn. The doctor will continue his teaching in the Creighton Medical College.

Dr. William R. Young, Long Beach, Calif.; State University of Iowa, 1893; aged 51; for many years a practitioner of Ansley, Neb., died December 22, 1919, from heart trouble.

Dr. J. W. Martin, physician at Du Bois for the past few years, died at the home of his mother in Pawnee City, Jan. 18, 1920.

Dr. Robert S. Knode of Omaha, aged 77 years, died Jan. 26, 1920. He practiced medicine here from 1889 until 1912. He is the father of Dr. A. R. Knode of Omaha.

RESOLUTIONS.

Grove Hamen Rathbun.

Death has ever been a strange and mysterious phenomonon of human experience!

It draws the mystic veil shrouding mortality from immortality.

It is the inexorable decree of the infinity; the wages of sin; the dissolution of mind from matter—"Earth to earth—ashes to ashes—dust to dust"—yet—"Dust thou art to dust returneth was not spoken of the soul."

It is the medium through which the soul of man takes its winged flight to the realms of Eternal Glory—only separation. For

"There is no death!
What seems so is transition.
This life of mortal breath is but the suburbs of
the life Elysian
Whose portals we call death."

WHEREAS: It has been the pleasure of the Great Physician to remove by death, his colleague and ours, from among us — Grove Hamen Rathbun.

We feel that he is not dead, but liveth yet in hallowed memory. His sacred friendship; his manly influence; his professional skill; his soul of honor, all abide with us still, and as the fresh fragrance of sweet scented flowers herald the coming of spring when all life is budding again, so the memory of this one of nature's noblemen soothes the sorrow of his bereavement.

BE IT RESOLVED THEREFORE, by the Elkhorn Valley Medical Society, assembled: That we honored his manhood, we recognized his skill as a surgeon, we appreciated his fairness, his honesty and his ability as a consultant, and shall try to emulate his untiring efforts and kindly sympathy for his patients. We foster his patriotism as a soldier. We cherish his memory, hallow his sacred companionship and mourn his untimely loss, and yet after all—

"Can storied turn or animated bust
Back to its mansions call the fleeting breath?
Can honors voice provoke the silent dust,
Or flattery soothe the dull cold ear of death?"

BE IT FURTHER RESOLVED: That these resolutions be spread upon the records of this society, and a copy be presented to his bereaved family.

COMMITTEE: A. E. Buchanan, Fremont.
Frank Johnson, Newman Grove.
G. W. Sullivan, St. Edward.

Government to Sell Medicines and Hospital Supplies to Hospitals and Institutions.

The director of sales of the War Department has announced that the Surplus Property Division, Office of the Quartermaster General of the Army, will offer for sale quantities of drugs, surgical instruments, surgical dressings, and hospital equipment. The fixed prices will be materially below present market quotations. State and municipal hospitals, free clinics, and similar institutions will be entitled to purchase for a period of thirty days, beginning Jan. 29, 1920, and ending Feb. 29, 1920. The materials to be sold were bought by the War Department for use during the war and have been declared surplus because the quantities on hand are in excess of the Army's present requirements. A list of materials showing the quantities available, location, price and other necessary information may be obtained from any Zone Supply Officer or from the Surplus Property Division, Munitions Building, Washington, D. C. The prices quoted are f. o. b. point of storage. A certified check, cash or liberty bonds, amounting to 10 per cent of the total purchase must accompany all orders together with shipping instructions when purchase is made by other than state, county, or municipal institutions. A ninety-day credit will be granted to purchasing agents of state, county, or municipalities when requested and no deposit is required by them. All other purchasers will be required to make payment in full before the materials are delivered.

The sale of narcotics will only be made to the classes of persons who have registered and paid a special tax as required by the Harrison narcotic law. Any hospital, institution, or purchasing agency representing charitable organizations in different cities or counties may purchase the entire quantity of any one or a number of items and may resell, issue or divide any portion with other hospitals or charitable institutions. The government, however, will not permit the resale of any of the articles at prices above those paid to the government except that handling charges may be added.

Orders may be made through the Army Building, 15th and Dodge streets, Omaha, Neb.

Dr. Bloodgood, Omaha, March 27th.

The Omaha Roentgen Society will hold a one day meeting in Omaha, March 27th. Dr. J. C. Bloodgood of Johns Hopkins University, Dr. R. D. Carman of Mayo Clinic, Rochester, and other men of national reputation will appear on the program. Every physician and dentist interested is wanted and welcome.

The annual meeting of the Clinical Congress of the American College of Surgeons, and of the American College of Surgeons was held Dec. 16, 1919, in Chicago. The program was as follows: Address by Dr. W. J. Mayo, Rochester, Minn.; report of the secretary-general, and report on hospital standardization by John G. Bowman.

Franklin H. Martin, Secretary-general.

Books Received.

Food For The Sick and The Well, How to Select It and How to Cook It.—By Margaret P. Thompson, Registered Nurse. Cloth, IXx82 pages. Price $1.00. Yonkers-on-Hudson, New York: World Book Company.

Transactions of the College of Physicians, Third Series, Volume XL. 1918 Philadelphia.

Syphilis.—By Henry Hazen. C. V. Mosby Co., St. Louis, Mo.

Systematic Development of X-Ray Plates and Films.—By Lehman Wendell. C. V. Mosby Co., St. Louis, Mo.

State of Connecticut Report of the State Tuberculosis Commission For the Period Beginning October 1, 1916, and Ending September 30, 1918.

FOR SALE.

Private Hospital or Boarding House— A valuable residence property containing twenty-five rooms, will be sold at a bargain as owner is leaving city. Address Journal office. No agents.

BOOK REVIEWS.

The Peritoneum by Hertzler. Vol. I and II. C. V. Mosby Co., St. Louis. Mo.

The book is a very complete discussion of the physiology, anatomy and chemistry of the peritoneum and peritoneal fluids. It discusses the theories of peritonitis and the different forms of it. The book is published in two volumes.

The first half of the first volume is given up to anatomy, physiology and histology of the peritoneum. Its anatomical discussion develops all the possibilities of hernia and folds within the peritoneal cavity.

The second half of the book is given up to the pathology of the peritoneum and discusses in detail the time of healing of a wounded peritoneum, the character of healing and the details of this process. Under this head the author discusses in full the question of peritoneal adhesions. We regard this as perhaps the most valuable contribution to the study of peritoneal adhesions in literature. The author describes the formations of exudates, transudates and the absorption of same. It is, indeed, a very valuable addition to the literature of this practical subject.

The second volume discusses peritonitis, giving its etiology, chemistry, bacteriology and pathology, with several pages of surgical procedures within the peritoneum that are exceedingly valuable and interesting. The author then discusses peritonitis due to cholecystitis, gonococcic peritonitis, puerperal peritonitis and tubercular peritonitis. The subject of thrombosis and embolism of the mesenteric vessels is discussed and "Tumors of the Peritoneum." This is a very valuable contribution to the literature of the peritoneum.

In addition to the facts published in the book, the author also has an elaborate bibliography which is very useful in obtaining the literature of the subjects discussed.

Lastly, we wish to state that the preface of the book advises us as follows:

"This study was begun during my student days, now twenty-five years ago and has occupied my leisure moments during all these years. Being done in connection with an active surgical practice, it naturally partakes of the practical viewpoint."

Being personally acquainted with the author, the reviewer cannot refrain from giving to this author the great credit he deserves for the original ideas embodied in this book and for the valuable compilation of statistics and theories that are likewise contained therein. It certainly required an enormous amount of labor to place before the profession of the United States such a valuable addition to the literature. This book should be in the hands of every physician.

A. C. S.

Development of X-Ray Plates and Films, by Lehman Wendell, B. S. D. D. S., Instructor of Prosthetics and Orthodontia, College of Dentistry, University of Minnesota. Cloth. Price $2.00, pp. 75, illustrated. St. Louis: C. V. Mosby Company, 1919.

This little volume is a very important piece of literature for anyone not thoroughly trained in the scientific development of the Roentgen plate. The language used is such that any technician or assistant can readily understand and assimilate everything set forth.

Unfortunately certain illustrations have been necessary to bring out points of faulty development, temperature, etc. For one to glance through the pages hurriedly one might possibly get the impression that the illustrations were of poor quality. This is not the case, each one showing a very important point that can be only brought out in this manner. The chapter on lantern slide making is very useful and will be appreciated by anyone caring to make his own slides. The book should be in every Roentgen Laboratory.

N. C. P.

Hygiene and Public Health, by Geo. M. Price, M. D. Second edition. Cloth. Price $1.50. Pp. 280. Philadelphia: Lea and Febiger, 1919.

The book is an attempt to give an epitome of the entire field of hygiene and public health. The subject is well handled, definitions are concise and for the most part accurate although there are a few statements with which one might take exception, for example: On page 114, the author states that filtration is the only successful method of providing a pure water supply. As a matter of fact chlorination of water supplies has been found very practical and is in use in a large number of cities. Again the statement is made on page 116 that a bacteriological examination of water is of value only as an aid to sanitary and chemical examination. Most sanitarians would reverse this and say that a chemical analysis is of value only as an aid to the sanitary and bacteriological examinations. Also on page 176, it would seem best to discuss the activated sludge method of connection of methods of sewage disposal. On page 199 the term alexin is used in an indistinct manner. The word should be used synonomously with amboceptor and is an entirely different substance from such antibodies as opsonins, agglutinins, antitoxins and complement. On the whole, the book serves a useful purpose and should be of considerable value to any one who desires a brief survey of the entire field.

J. T. M.

Hygiene and Sanitation, by Seneca Egbert, A. M., M. D. Seventh edition. Cloth. Price $3.00. Pp. 554. Philadelphia: Lea & Febiger, 1919.

The book is a carefully written discussion of the more important phases of the subject. The revision has brought the subject matter well up to date and the book contains very few errors. On page 50, an infectious disease is defined as one not usually transmitted by fomites. An infectious disease is usually defined as one which is caused by any micro-organism. The liquid chlorine method for water treatment is not given the prominence which it deserves since it is a method so widely used throughout the United States. Special attention has been given to the subjects of sewage disposal, industrial hygiene and military hygiene. Each of these subjects is an important one and is being rapidly advanced. Egbert's book is one which can be heartily recommended since it is written in an interesting manner, material is well chosen and authoritative. It should be of value to Physicians, Health Officers and any one interested in the development of public health.

J. T. M.

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A Review of Roentgen Diagnosis of Diseases of the Chest.

Edward W. Rowe, B. Sc., M. D., Lincoln.

Every complete examination of the chest requires a roentgenoscopic and a roentgenographic study. Roentgenoscopy is used for preliminary observation and insight into the living chest. Much can be told by observation of the moving chest. The moving diaphragm, the change in level of fluid cavities, the mediastinal viscera from different angles, illustrate the importance of the roentgenoscope. Stereoscopic plates are invaluable for the detailed study of the chest. By these the different planes of tissue are pulled one out of the other until they assume their normal depth in the chest. Before my army experience I never looked at the flat plate in studying the chest. But necessity has sharpened the wit, and after my study of many thousands of flat plates I am convinced that a roentgen interpretation of them is quite possible and accurate. But the revelation of the stereoscopic method is so wonderful that I doubt whether one has really gotten the vision if there are no expressions of delight. The real advantage lies in the addition of depth and the ability to determine the true components of increased density and infiltration.

The upright position gives the best opportunity to examine the chest without motion or distortion of the parts. Upright plate changers are now commonly used which permit the plates to be made quickly with the body in a normal unstrained position.

Every observer should drill himself to fall into a routine manner of examining either roentgenograms or the chest with the roentgenoscope. First, a rapid survey of the entire chest will orient the observer and assist him to make a more detailed examination. The size and thickness of the patient affect decidedly the observation. The anatomical and physical aspects are taken in by the mind subconsciously. There is, strictly speaking, no normal lung plate. Age, sex, size and shape of the chest all make a difference. Air-containing vesicles throw no shadows, but bronchi, blood vessels and lymphatics do, and by the arrangement of the different densities the characteristics of their structure may be discerned and abnormalities noted. The blood vessels near the periphery account for most of the shadows there. The bronchi do not cast distinct shadows except at the root.

where they merge with the hilus shadows and are sometimes seen in cross section. A visible pleura is always pathological. It is only by the repeated examination of a great many plates that a normal picture can be established in the mind.

The observation of the screen or the plate may begin, after the preliminary survey of physical aspects, with the apices, comparing the one with the other and noting the illumination with and without deep inspiration or forced expansion by coughing. Passing on down the right side, observe the pleura, the diaphragm and the angles. Repeat upon the left side. Then study the mediastinum and the hilus shadows with the thickening about the roots of the lungs. Lastly, the parenchyma of the lung should be carefully studied, for in it are often the characteristic signs of tuberculosis. Adhesions limit the free movement of the lungs in the pleural cavities, and often pull upon the diaphragm like the tug of a tent rope.

In the latest edition of his book on "Physical Diagnosis," Dr. Cabot has added a fifth cardinal point to the four classical steps in the physical examination of the chest. These steps are as follows:

1. Inspection.
2. Palpation.
3. Percussion.
4. Auscultation.
5. Roentgen Interpretation.

Interpretations cannot always be made from the roentgen findings alone. The history will put the interpreter upon his guard. Many good men feel the bias of a history so strongly that they leave the reading of the history until after the interpretation, and then use it only to check up on the final decision. While this is a safe method, yet the history can never be ignored. Roentgenology is not a guessing-game of chance. Careful and honest observers will record their facts as accurately as the trained observers in other fields of clinical medicine. The roentgenologist may omit the first principles of physical diagnosis, but he needs the personal history, the family history, the record of past illnesses and the facts of the present illness as much as the one who is completing the physical examination.

Heart.

The roentgen study of the heart will reveal accurately many hidden secrets. In the large, our diagnostic sense is based upon facts in the history and examination which often cannot be measured or accurately sensed. Arrhythmias, such as heart block, auricular fibrillation, paroxysmal tachycardia, extrasystoles, coupling of heart beats and alteration, sinus arrhythmias, etc., are better studied by the arteriograms, phlebograms and electrocardiograms than by the roentgen ray. But they require special apparatus and the knowledge of experts, possessed only by a few. The roentgen examination gives accurate rate and rhythm, and the sequence of auricular and ventricular action.

Four general points in the observation will cover the study of the heart. From them we must reason to a decision. These cardinal points are:

1. Shape.
2. Size.
3. Position.
4. Movement.

We are all familiar with the changes in shape which hearts assume when dilatation or hypertrophy, right or left side, ventricular or auricular, predominate. Keeping these points in mind, dilatation will appear under the roentgen ray as it appears in the pathological specimen. Hypertrophy appears as a dense, thick wall with firmly rounded muscles. Valvular lesions seldom occur as pure entities. When they do, you are familiar with the changes that occur progressively, and it is necessary to keep this knowledge in mind. The shape of the heart depends upon the individual. A short, stocky man will have a short chest. The heart will be transverse and usually more muscular. A tall man will have a heart that lies more perpendicularly and centrally. A man must have a heart in proportion to his size and vocation. To decide this relation is a matter of judgment. Many arbitrary methods of measurement have been devised. None are entirely satisfactory. The following descriptive names have been adopted as typical of the ordinary normal variations:

1. Transverse.
2. Vertical.
3. Globular.
4. Drop.

The normal heart varies widely. A transverse heart requires close scrutiny, for it is often a dangerous heart. The athletic heart is of this type. Vertical and drop hearts are normal, but they so often belong to neurasthenics and to inside dwellers that they are a more common occurrence among the victims of tuberculosis than other types. The globular heart, usually centrally located, means a small, undeveloped heart muscle. Perhaps the auricles may be more overworked than the ventricles. The most radical changes in position of the heart are those due to congenital conditions. Dextrocardia is of no pathological significance, but always interesting. These hearts show no more pathology than the normal heart. The fibrosis in advanced pulmonary tuberculosis is often marked and causes great distortion of the mediastinal viscera, with change in the position of the heart. Effusions may obliterate, push to the right or to the left. Empyemas may have the same effect. The final stages may be the reverse of the early empyemas, due to fibroid contraction after the fluid has been withdrawn or absorbed. A heart which is fixed will tug upon other viscera and reveal old pathological changes.

The hypertrophied heart is more vigorous in action. The dilated heart appears to be in diastole and shows feeble movements of the wall. The apex is an indicator of the heart action, the hard or soft beat being more easily demonstrated at that point. Hearts rotate to fit better the space they occupy, due to the change in shape and on account of distortion. This change in position must not be overlooked.

The diagnosis of pericarditis depends on increase of fluid in the pericardium or upon the presence of adhesions to the heart and other viscera, which cause irregular movement. Pericarditis with effusion is characterized by (1) increase in cardiac area; (2) elliptical-shaped area with smooth walls, sometimes compared to a water bottle; (3) obliteration of auricular angles; (4) obliteration of aortic angles; (5) changes in the right and left cardiophrenic angles. They become more acute.

The study of the rheumatic heart more and more impresses the observer with the fact that heart infections seldom attack one valve or any part alone. The term "pancarditis" has come into use and is looked upon as the early condition of many chronic heart lesions. Roentgen findings demonstrate the selective action of bacteria for certain structures in the heart. Lesions that appear in several structures of the heart, when acute, may later become apparent only in the valve or in the pericardium. Late chronic lesions invariably start a procession of development whose life history may be read not only at autopsy but at the roentgen examination. Pure lesions are rare. They must be studied in the combined stages, and the roentgen examination will add much to the observation. To take up the study of valvular changes in the heart would take up much more space than the scope of this paper warrants. It is sufficient to recall the gross anatomy at the autopsy table, and with this in mind try to make the picture on the screen or on the plate correspond with the memory of the different pathological pictures. The types are striking in comparison.

Pure lesions are rare, but careful observation will permit classification in one of the standard types. Miscellaneous lesions give fragments of information, and often the points revealed are diagnostic. Myocarditis is revealed by a thin, feebly pulsating, dilated wall. The arteriosclerotic heart is a large one and muscular. It is dense. Placques are sometimes seen in the great vessels at their origin. It shows the effects of long-continued strain and effort to compensate. It hypertrophies early; and when failing dilates. It may assume an enormous size if the valves (especially the aortic) give way. The nephrogenous heart cannot always be distinguished from the arteriosclerotic. It is marked in size and form changes, though it must be confirmed by other findings. Congenital heart lesions undergo pathological changes the same as other hearts, except in the dextrocardiac anomaly. There are no special roentgen points of importance.

The Aorta.

The aorta should be studied throughout its course in the chest. The transverse arch is seen best in the transverse position. More attention should be paid to aortitis. In its relation to syphilis, if considered early, more aneurysms and other circulatory changes might be prevented. In many acute illnesses arising in the chest there is a physiological dilatation of the aorta which in time returns more or less to the normal. The long rest and fatigue following these illnesses is to be expected when the effect on the circulation is observed. Dense calcified placques may be determined. For practical purposes all aneurysms may be divided into saccular and diffuse. The saccular are so characteristic that they are easily recognized. The points are as follows:

1. Regular outlines, spherical in shape.

2. Pulsating and expansile.
3. Erosion of the surrounding tissues to any extent. The ascending and descending arch early erodes the bony walls of the chest. The transverse arch tends to extend within the mediastinal regions.
4. The cardiac changes are always marked. The heart is large. There is a continuation of the heart with the aorta.

The diffuse type of aneurysm offers nothing peculiar except that it must be carefully differentiated from aortitis. It is enormous in size. A dilated aorta seldom gives a systolic impulse of more than nine centimeters. A diffuse aneurysm will cause a greater dilatation, and some of the above characteristics are usually present.

The Lungs.

Bronchitis: Acute bronchitis has no findings. But since the diagnosis of bronchitis may cover a number of things, it is always well to look for signs of other pathology. In 161 cases in the Massachusetts General Hospital coming to autopsy with the diagnosis of bronchitis, the following list of diseases were found in the numbers indicated:

Heart weakness	105
Neoplasms	5
Tuberculosis	51
Chronic pneumonitis and abscess of the lung	15
Other conditions	7

This list of blunders should put one upon his guard. Keeping the lesson in mind, diligence in the roentgen study will generally reveal one of these conditions.

Bronchial Asthma: This condition has no differential findings. Usually there is diffuse bronchial thickening, generally distributed. But negative findings will determine whether the disease is the purely spasmodic type or the one complicated by heart or lung pathology. Emphysema can be demonstrated by the parallel ribs, the expanded chest, and the permanently thickened mediastinal glands and hilus shadows.

Bronchiectasis and Lung Abscess require very careful study, and are usually complicated by many secondary changes. The classification of the different types of bronchiectasis by Moore, is almost self-explanatory of the lesions as found upon the plates. There are three types: the saccular, the tubular and the diffuse. From a lung abscess it may be impossible to differentiate the type that arises from the dilated bronchi. History and the etiology must often aid in the decision. There is infiltration or consolidation of the lung in nearly all cases of lung suppuration. The abscess is circular and seldom near the periphery. Around the abscess will be seen the wall like a band with gradually fading density. The fluid level, if observed, is striking and should be sought after, for it is pathognomonic.

Lobar Pneumonia: In this disease we find a uniform shadow coincident with one or more lobes of the lung. The three stages may be seen:

1. Oedema and engorgement. Thinly defined but evenly distributed shadow.
2. Consolidation. Dense infiltration, but a homogeneous shadow.
3. Resolution. The shadow corresponds to the lobe, but the homogeneity is lost and in its place is the patchy, irregular appearance more like that of bronchopneumonia, but confined to one or more lobes. Often these three stages and normal lung may all be seen at once. Continuous observation will show the progression of the stages day by day. Pleural changes and their complications usually appear subsequent to these definite signs of pneumonia. The diaphragm becomes spastic and lags on inspiration. Adhesions may early occur.

Delayed resolution is a term which should be used carefully. Roentgen examination of a large number of these cases has usually revealed one of the following conditions:

1. Pleurisy with effusion.
2. Pleurisy with empyema.
3. Abscess or gangrene.
4. Organization of fibrosis. Chronic pneumonitis.

Bronchopneumonia: In the recent epidemic of influenza the majority were cases of lobular pneumonia. Characteristic patchy involvement over the lung area was the usual appearance. There is no conformation to the lobes themselves. In the recent cases this was not true. Often the lobular pneumonia assumed the massive type and the physical and roentgen findings were very much like those of lobar pneumonia, but careful observation revealed usually the patchy, irregular appearance. If the patient could be observed from day to day and the clinical history observed, there was usually no trouble in distinguishing the two types. Lobar pneumonia is seldom unilateral. Confluence of the lobules may be observed. Massive lobular pneumonia describes it well. Greater virulence, greater tendency to pus formation and pleural involvement, and the simulation of lobar pneumonia characterized the recent epidemic.

Neoplasms.

New growths are of two types, primary

and secondary. The roentgen interpretation will determine metastases before the clinical examination. For this reason it is important to ray the chest prior to operation. Of the metastatic new growths the most commonly encountered are carcinoma and sarcoma. The earliest metastases appear as faint homogeneous circular shadows irregularly distributed throughout the lung, but are larger in the lower lobes. The size depends upon the type of the primary tumor and duration of the disease. Miliary carcinosis may simulate closely miliary tuberculosis.

Primary new growths occur in two forms, depending upon their origin from the mediastinum or the pulmonary tissue. Again, primary carcinoma may assume two forms, the so-called bronchial carcinoma and the lobar. The first follows the tree-like bronchi, and the second marks a densely packed lobe. It usually attacks the upper lobe. The intercostal spaces are narrowed. The heart and mediastinal viscera are drawn to the affected area unless fluid or air may prevent. There is never the typical arrangement of chronic fibroid tuberculosis.

Mediastinal new growths include the various lymphomata, Hodgkin's disease, lymphosarcoma, carcinoma and sarcoma. Only to a limited extent can these be differentiated from one another. There is generally an encroachment upon the lung tissue, the air-bearing tissue being pushed forward and not infiltrated. They may occur in any part of the mediastinum, as in a substernal thyroid. Sarcoma of the ribs appears as a sharply circumscribed shadow, and may be distinguished by the appearance of the distorted and changed rib in the tumor mass revealing the origin of the disturbance. Lung, pleura and even mediastinum may be invaded.

Oedema: The lung markings and the diaphragm are lost in a diffusion of tissues without form or outline. These signs progress.

Hypostatic pneumonia usually occurs in the base of the lungs and is generally confined to the most dependent portion of the axillary angles. It may resemble pneumonia, but is slower in clearing up.

Atelectasis: This is practically never seen except as a complication of effusion, empyema or pneumothorax. Collections of fibrinous exudate in acute bronchitis and bronchopneumonia may occur in the lower bronchi and give an atelectatic lung.

Diseases of the Pleura: The presence of dry pleurisy is often difficult. But a spastic diaphragm, with thin, filmy exudate very early, makes it apparent.

In chronic tuberculosis a very dense thickening may occur which may be great enough to displace lung tissue. The outlines of the diaphragm may be lost in the shadows.

The shadows of pleural effusions are easily recognized when in the axillary spaces. The density in a general way will indicate the presence of pus, or of the lighter, less heavy transudate. A small amount of fluid will rise upward and appear as the fluid is held between two membranes held by capillary attraction in the position, showing a line or meniscus. The fluid may be encapsulated and no movement observed. Fluid moving freely in a pleural cavity always means the presence of air. In making a diagnostic puncture of the pleural cavity it must be remembered that it is easy to admit air, and the formation of an artificial pneumothorax may prove exceedingly embarrassing to the patient. Large effusions or empyemas may fill the entire chest, compressing the lung tissue about the hilus and into the upper mediastinum, crowding the viscera to the opposite side. Interlobar effusions and empyemas are infrequent, but do occur. Often they are but encapsulated collections of fluid in the pleural cavities. It is important to watch for encapsulation, and it can be determined fairly accurately. An uncommon form of uncapsulated pleurisy is the so-called mediastinal pleurisy, in which the fluid occupies the medial portion of the chest, lying close to the mediastinum. The shadow may be confluent with the heart. The following points cover the examination of pleural cavities:

1. Number of cavities.
2. Form of cavity.
3. Size of cavity.
4. Location.
5. Fluid.
6. Character of the fluid. Specific gravity reveals the difference in pus, hemorrhage or effusion.
7. Site for paracentesis or thoracotomy.
8. Guide for the surgeon in observance of the convalescence.

Artificial pneumothorax cannot safely be used as a therapeutic measure unless guided by roentgen observance. In the treatment of fistulae and the outlining of pleural cavities, stereoscopy is of inestimable value. Thorium nitrate has been used to inject for opacity, but it seems to be too toxic. In selected cases it is safe to use soft bismuth injections. No bronchial fistula should be present. The use of Carrel-Dakin solution for the treatment of empyemas requires the use of all roentgen methods. The use of this solution has materially shortened the course of the healing.

Tuberculosis of the Lungs: This will be only a sketch of some of the salient features in the study of tuberculosis. Bear in mind that the disease is chronic, running a course that began in childhood and reached its height in early maturity. Those who have lived beyond this period have established an immunity or a certain amount of arrest. This is due to the sensitization of the tissue and certain secondary changes. It is this latter tissue that we are called upon to observe, and in it will be found all the characteristic arrangements of the protean pathology which tuberculosis of the lungs exhibits.

The early soldiers who went overseas had in their number a high percentage of tubercular men. Later, due to the establishment of examining boards, the number decreased. Major Cabot reported from Base Hospital No. 6, in the first 21,000 cases examined, that no incipient cases were observed. All those culled out were advanced in the disease. French and American observers report that the epidemic of influenza, complicated so often by pneumonia, and the presence of thousands who had been gassed, had not increased the number of tuberculous patients. The changes of pulmonary tuberculosis take years to develop. The changes following gassing and pneumonia are the very opposite to those of tuberculosis. In the first place, gassing tends to produce scar tissue. The findings in the chest following gassing are those of extensive, uniform and diffuse fibrosis. The substernal pain so commonly complained about may be explained by the pulling and distortion of the mediastinal viscera by the firm, dense fibroid changes which occur.

Autopsy reports from the American army show that 25 per cent of the American soldiers who died had some form of pulmonary tuberculous lesion. The German statistics show as high as 75 per cent. The location in the lungs follows very closely the old published finding of Ghon—that is:

Right upper lobe—61 per cent.

Left upper lobe—39 per cent.

Tuberculosis begins in the upper lobes. Essentially, as seen upon the roentgenograms, it is an upper-lobe disease. The bronchi below the primary focus are invaded by aspiration and bronchus infection, as a rule. The lower lobe is involved only late. Suspicious lesions in the lower lobes are usually found to be empyema, abscess, or fibrosis. The pumping action of the diaphragm has been offered as an explanation of the freedom from tubercular involvement in the lower lobes.

What are the findings in pulmonary tuberculosis?

They may be classified as follows, and all of these pathological processes may be identified upon the roentgenogram. (Orndoff).

1. Primary: The roentgen tubercle.
2. Secondary tissue change:
    - Dunham's fan
    - Diffuse infiltration
    - Consolidation
    - Cavitation
    - Caseation
    - Calcification
    - Fibrosis
    - Pleural Lesions

Description of the roentgen tubercle: The initial lesion seldom, if ever, can be demonstrated upon the roentgenogram; nor can it be demonstrated by clinical methods. No one argues that a microscopical change can be seen upon the roentgenogram. But the name tubercle has been applied to the smallest tubercular lesion which can be demonstrated by the roentgen ray. It is characteristic, usually pin-point in size, and if seen calcification is taking place. Usually what is seen is a number of these tuberculous lesions, and in the parenchyma or along the bronchial tree they cast shadows which are very definite in form and density. It is interesting to know that in the American Expeditionary Forces the pathological basis for interpretation depended upon divided the number of cases examined about as follows:

1. Parechymatous lesions	⅓
2. Peribronchial lesions	⅓
3. Miliary type	Very few

Secondary Changes.

Dunham's Fan: This is a triangle or cone-shaped formation occurring in the parenchyma. It requires stereoscopic plates to appreciate it. It varies in size from a grain of sand to that of the hand. It is often difficult to see, since the base occurring at the periphery may not always be towards the observer. When seen, it is characteristic and diagnostic. It is due to the involvement of a certain area, much as an infarction takes place. More than one may occur. The lines from the apex radiate more or less regularly like a fan, outwardly. There are heavy lines and finer lines, and between them a filmy tobacco-smoke effect, probably from interstitial infiltration and lymphocytosis. The location is almost always in the upper lobe and about the first and second interspaces.

Diffuse Infiltration: This starts from the parenchyma and suggests infiltration of tissue of varying degree, such as the slower development of disease could furnish. Air spaces are present throughout. The great trunks may outline the pathway of engorged lymphatics and blood vessels leading to and from the tubercular area.

Consolidation: When confluence of many areas takes place, consolidation occurs. This may vary in degree all the way from small patches to large patches or until an entire lobe or lobes are involved. These findings are usually in the upper lobes. The apices do not expand well, and appear increased in density. Acute infection of the respiratory tract involves more particularly the lower part of the lung and the mediastinum. Tuberculous infection typically affects the upper lung in its distribution.

Cavitation is found only after consolidation has taken place. Since it is due to the death of tissue from lack of blood supply, together with the presence of pyogenic bacteria, there is simply a loss of tissue visible, surrounded by a more or less dense infiltration assuming a wall-like protection of the other tissues. The shape may be any kind, but is usually spherical. The size varies from minute abscesses to enormous cavities. Many so-called cavities are in reality pleural cavities due to the spontaneous formation of a pleural pocket. Stereoroentgenograms aid materially in the study of cavities.

Caseation cannot be determined except as it is present with other findings of tuberculosis. It is surrounded by a wall and is a cavity in formation, whether it ever really forms or not. Calcification may surround the area, as it may the cavity. Calcification is very evident. It is a part of all tubercular findings and requires no special comment. Calcified glands about the roots of the lungs are indicative of nothing more than old inflammatory processes. Hilus tuberculosis does occur, but it must be checked by careful clinical observation. If the patient is an infant or young in years, mediastinal and hilus tuberculosis assume an altogether different problem. But that is outside the bounds of this discussion.

Fibrosis occurs wherever long-standing tissue changes occur. It may be seen surrounding cavities, along the pleura and the bronchial trunks. It may cause unusual distortion of the lungs and mediastinal viscera. It is scar tissue, and aside from this distortion appears as dense tissue, following the form and shape of the tissue involved.

Tuberculosis may be accompanied by thickened pleural pathology. Effusions are common. Often great thickening of the pleura occurs. The density may suggest fibrosis.

Prognosis.

The outcome of tuberculosis may be determined by several roentgen signs:

1. Activity. This admits of many errors, but an active tuberculous process is less dense, shows more of a fuzzy infiltration, and if calcification is present the wall of petrification is broken down. This may be observed in the roentgen tubercle or in the larger tuberculous processes. Calcification means arrest.

2. Cavitation. A tuberculous cavity is nothing more than a lung abscess of tuberculous origin. Usually there is a mixed infection. The prognosis is bad.

3. Heavy peribronchial changes in the lower lobes, if tuberculosis is present above, add to the severity.

These roentgenological findings, together with the presence of tubercle bacilli in the sputum, give a prognosis that is practically hopeless.

The need of caution is greatest in the differential diagnosis of:

1. Bronchopneumonia. The findings are generally sufficient, and the history should leave no doubt. The findings are diffuse, less inclined to select the upper part, and infiltrate irregularly the lower. The analysis of the peribronchial thickening and the parenchymatous tissue seldom leaves any doubt.

2. Lungs Exposed to Gas. After a few days' time the pathological condition becomes one of secondary infection, then the mediastinal gland and the shadows about the roots of the lungs show massive engorgement. Bronchopneumonia may develop. These signs persist, in case of recovery, for a long time. In the end there is much fibroid change, dense in the mediastinum, evenly disseminated, extending to all bronchi, even causing contraction and distortion of the viscera.

3. Pneumonia. Usually involves one lobe at a time. At least, the sharp outline of lobar involvements are seen, running progressively through the different stages. Except in resolving pneumonia, there should be no difficulty.

Summary.

The roentgen diagnosis of pulmonary tuberculosis requires the careful correlation of history, physical findings and laboratory tests. Over-enthusiasm by roentgen examination alone is to be deplored. But no other method reveals so clearly and accurately the pathological changes upon which a diagnosis may be made. The extent of involvement and the character of the changes give an excellent aid to prognosis. With this in mind, the treatments consequently fall in line according to the findings. If in all cases a sputum test is required for a diagnosis, many patients will be denied the benefits of an early positive decision. The same may be said of a diagnosis upon history and physical findings. Add to either one of these methods the result of roentgen investigation, and you will have an accuracy of high degree. Remember that the roentgen method of diagnosis has been most carefully worked out, hand in hand with the work of the most thorough and painstaking internists and pathologists. There is no better way to interpret the antemortem findings. Correlated with the history, physical findings and laboratory tests, the method adds a milestone to the advance of medical diagnosis.

Conclusion.

The pathologist arrives at his conclusions by direct observation, and makes his diagnosis through his visual center. The internist thinks of disease in terms of physical diagnosis, and must interpret all the many details of inspection, palpation, percussion and auscultation into pathology and by them obtain his perception of the hidden pathology. Roentgen reading is more direct observation. It is the interpretation of density and form. Pathology reproduces with great accuracy its histological structure and permits of direct interpretation. Diagnosticians in the fields of roentgenology and of physical diagnosis are compelled to think, as it were, in one language and to speak in another. Nowhere in the science of medicine is the confusion so pronounced as in the chest. For example, there are all kinds of rales. There are moist rales, dry rales, sibilant rales, big rales, little rales, until I am inclined to pause and think of the Pied Piper of Hamelin and the Bishop in the Mouse Tower on the Rhine. All these perceptions must be interpreted into the language of histopathology, and the more direct the method the greater will be the accuracy.

A correct diagnosis may often be made by an incomplete examination. Correct diagnosis may be made continuously by men who have raised their own particular methods to a high state of efficiency. There are roentgenologists who make as high a percentage of correct interpretations as internists, both working in their own fields. But the ideal method is the one which employs the careful correlation of history, physical examination, laboratory tests and roentgen investigation. In my earlier experiences I was often embarrassed because my colleagues showed a spirit of rivalry and jealousy. Sometimes I have triumphed over them, but I have always tried to bring a spirit of cooperation into the work and to meet them, not as rivals, but in the true spirit of cooperation.

Blood Chemistry With Reference to Surgical Risks, Prognosis and Treatment.

C. L. Hustead, M. D., Falls City.

The advances which have been made during the past few years relative to non-protein blood constituents have already been found of great value in the diagnosis, treatment and prognosis in urological cases. The general surgeon frequently finds it necessary to operate upon patients suffering from these conditions and such diagnostic and prognostic information as the blood tests afford is of service in giving him insight as to the risk of the surgical procedure. When called upon to perform any major operation, particularly a prostatectomy, nephrectomy, nephrotomy or make a decapsulation, the prognostic information regarding the functional activity of the kidneys which the blood urea or creatinine will give is indispensible.

Before entering into a discussion of this question, it may be of interest to recount the more salient facts which have been ascertained regarding the changes occurring in the blood as the result of impaired kidney activity, particularly in comparison with the results of the slightly less recent phthalein test. This latter test not only supplied us with a most valuable diagnostic and prognostic test but furnished the incentive to numerous investigations on the functional activity of the kidney. It may be well to outline the general scheme which we follow in the chemical examination of the blood. The tests employed cover the ability of the kidneys to eliminate the nitrogenous waste products and the possibilities of hyperglycemia and acidosis. This would appear to be a sufficiently comprehensive scheme to answer the questions which usually arise in the types of cases considered. No doubt it may be possible to arrive at similar conclusions with other modes of attack but the present method is that used in the New York Post Graduate Medical School and Hospital.

In cases where it is desired to ascertain the functional ability of the kidneys relative to the excretion of nitrogenous waste products, quantitative determinations of the urea, creatinine and uric acid are made. The normal blood content of these three end products of nitrogenous metabolism may be given as 12 to 15 mgm. of urea nitrogen, 1 to 2 mgm. of creatinine and 2 to 3 mgm, of uric acid, all calculated per 100 cc. of blood. There would appear to be little doubt that the very early cases of interstitial nephritis are accompanied by an appreciable rise in the blood uric acid, although a rise in the blood urea can probably be taken as a safer sign of impaired kidney function. It is certainly true that the urea nitrogen falls within very narrow limits for perfectly normal individuals. Figures over 20 mgms. per 100 cc. of blood on the usual restricted protein diet of the hospital would suggest impaired kidney function. Creatinine appears to be more readily eliminated than either uric acid or urea, and it is not, as a rule, until the blood urea has doubled, or more than doubled the normal, that there is a very appreciable increase in this purely endogenous waste product derived apparently from muscular metabolism. As pointed out above, the normal for the creatinine of the blood is approximately 1 to 2 mgm, per 100 cc. and a figure as high as 3.5 mgm. can be viewed with very grave concern while in those cases in which the creatinine had risen above 5 mgm. per 100 cc. of blood rarely show any improvement under treatment and almost invariably die within a comparatively limited time. On the other hand cases with high figures for urea but without marked creatinine retention generally show improvement. Cases with over 3.5 mgm. creatinine per 100 cc. of blood, are very poor surgical risks. The only possible exceptions might be cases where the retention was due to some acute renal condition.

Theoretically, the amount of the increase of the creatinine of the blood should be a safer index of the decrease in the permeability of the kidney than the urea, for the reason that creatinine on a meat-free diet is entirely endogenous in origin and its formation (and elimination normally) very constant. Urea, on the other hand, is largely exogenous under normal conditions and its formation consequently subject to greater fluctuation. For this reason it must be evident that a lowered nitrogen intake may reduce the work of the kidney in eliminating urea, but cannot affect the creatinine to any extent. Apparently the kidney is never able to overcome the handicap of a high creatine accumulation. It would seem that creatinine, being almost exclusively of endogenous origin, furnishes a most satisfactory criterion as to the deficiency in the excretory power of the kidneys and a most reliable means of following the terminal course of the disease but it should be noted that urea, being largely of exogenous origin, is more readily influenced by dietary changes, and therefore constitutes a more sensitive index of the response to treatment.

The inability to excrete properly the waste products of nitrogenous metabolism is only one of the difficulties which arise as the result of renal disease. As is well known, in chronic parenchymatous nephritis, or nephrosis, the edema is probably dependent, in part at least, on the lowered permeability of the kidneys for chlorides with their consequent retention. It is natural therefore to expect that the excretion of other salts would be deficient, although we have only recently come to appreciate the effect of the retention of phosphates. Normally acid phosphate provides one of the most important mechanisms of eliminating acid. When the phosphate excretion is impaired, bringing about an increase in the (acid) phosphate of the blood (and tissues), an acidosis results. This retention of acid phosphate reduces the ability of the blood to take up and carry away carbon dioxide, or in other words lowers its CO_2 combining power. With the apparatus recently devised by Van Slyke the determination of the CO_2 combining power of the blood is simple and would seem to provide the most satisfactory method of any for ascertaining the degree of acidosis. Because of the well known influence of anesthetics such as chloroform and ether upon acidosis, the CO_2 combining power of the blood constitutes a very valuable pre-operative test in certain cases.

It has frequently been noted that patients suffering from renal disease show blood sugar which is above the normal limits. A satisfactory explanation for this slight hyperglycemia has recently been offered. The blood of such cases exhibits a correspondingly high diastatic activity, and since it has long been recognized that the diastase excretion of these cases is lowered, this would serve to explain the increased diastatic activity of the blood and in turn of the increased blood sugar. The importance of the chemical examination of the blood in diabetes is coming to be appreciated more and more. The excretion of sugar by the kidneys is simply one of the body's many factors of safety. The condition to which attention should be directed is the hyperglycemia, and as the disease advances the glycosuria becomes less and less a safe criterion of this, since the permeability of the kidneys for sugar appears to be gradually lowered. Normally the blood sugar varies from 0.09 to 0.12 per cent and in early cases of diabetes one may note an excretion of sugar when the sugar of the blood rises above 0.16 or 0.17 per cent, but in advanced cases blood sugar figures of 0.2 to 0.3 per cent (and even 0.46%) may be noted without the appearance of any sugar in the urine.

The diastatic activity of the blood, noted above in connection with the hyperglycemia of nephritis, is found to be proportional to the blood sugar in untreated cases and would appear to be the blood sugar determinant. No explanation has as yet been found, however, for the rise in the diastatic activity of the blood.

The possibility of a patient being thrown into acidosis coma as the result of operative anesthesia is much more important in diabetes than in nephritis. The value of a pre-operative determination of the CO_2 combining power of the blood has already been pointed out in the case of nephritis. From a series of hospital records it should be especially noted that diabetic patients with a low CO_2 combining power rarely survive operative procedures requiring a general anaesthetic.

In reviewing the records of 94 cases with creatinine values of 5·mg. or more, the outcome has been; died 83, unknown 3, unchanged 4, improved 2 and recovered 2. The two cases classified as recovered were acute cases in which the creatinine remained over 5 mg. for only a few days. Of the 83 known dead, 80 percent died in less than two months although a few cases have lived as long as a year. There were a good many cases which were able to be up and about, and some that showed considerable clinical improvement. The creatinine gave a better prognostic insight into those cases than either the blood urea or phthalein tests which were made simultaneously. It will be seen that in these advanced cases of nephritis the blood creatinine furnishes a more reliable prognosis than any other test we possess.

As a control test of another type the phenolsulphonepthalein test has been employed in many of the cases. When proper precautions are taken to secure an accurate collection of urine (by catheter); observations confirm the reliability of this test also. Obviously when it is desired to ascertain the activity of the kidneys individually, blood analyses are of little value, except in so far as they may indicate that both kidneys are involved or not and thus aid in determining the operative risk. To determine the comparative functional ability of the two kidneys, it would appear necessary to resort to catheterization of the ureters. The output of phenolsulphonepthalein or indigo-carmine after the administration of these drugs or the excretion of urea may be compared.

Securing Blood for Analysis.

It is best to secure the blood specimens after a twelve to fifteen hour fast, i. e., in the morning before breakfast. It is believed that in this way the possible influence of dietary factors is reduced to a minimum. About 20 cc. of blood are drawn into a bottle containing the dried residue of 6 to 8 drops of 20 per cent potassium oxalate to prevent clotting, and the various blood analyses are then carried out from this collection of blood.

The Preservation of Function in Joints After Fractures.

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That an ounce of prevention is worth a pound of cure, is an accepted bit of wisdom as old as the experience of man. The prevention of ankylosis following fractures, therefore, will embody a consideration of those factors which contribute towards the delayed, impaired, or arrested function of joints, and the means by which stiff joints after fractures may be avoided.

Some surgeons have maintained that normal joints will bear immobilization for an indefinite time without becoming ankylosed. This view seems to have grown out of the experience of orthopaedic surgeons whose observations of the benign influence of the prolonged fixation of normal joints in casts or braces incident to the treatment of paralysis and other orthopaedic conditions. Probably all general surgeons will hold a different view for the reason that they have seen cases of decided stiffening, and even permanent ankylosis, follow relatively short periods of immobilization, incident to the treatment of fractures, somewhat remote from the joints. So striking has been this observation that there would seem to be a preternatural tendency to ankylosis in some patients. It is probable that the effects of trauma may extend to and involve neighboring joints more extensively than commonly appreciated. Swelling and edema, worse still, infiltration of the soft parts with blood and serum, favor connective tissue formation, thicken and condense tissue, and favor adhesions between parts, which if allowed to remain for a considerable time, produce permanent stiffness and immobility.

Imperfect reductions and attempts to make splints, pads, pressure and force, hold fragments in position, are responsible for the major portion of stiff joints, adherent tendons and muscle bound limbs. These should be avoided by more accurate reductions, by manipulation or operation, lessened dependence upon splints, early mechanico-therapy in its various forms, heat, etcetera. Fractures in or near joints which cause fragments to impinge against or between opposing parts, should be so treated at the onset as to replace or remove them and thus remove the mechanical obstruction which they cause, and if for any reason this has been delayed, the obstruction should be removed before persistent attempts at restoration of functions are made.

Articular fragments often call for direct operative mechanical reduction and fixation to prevent serious mechanical interference with subsequent joint functions. Therefore, early replacement and fixation of such fragments to allow proper movements is a necessary prerequisite to conserve joint function.

Adherent patella is a frequent source of stiffness. Pressure over the patella for a few weeks will produce a stiff knee—hence it is a good practice to cut out casts in front of the knee, and to make frequent manipulations to insure against the patella becoming fixed. Joint fractures have made more or less blood within the cavity of the joint. The traumatism within the capsule causes an increase in the synovial secretion, but this is probably desirable in that it dilutes the blood, and renders it less fibrinous, thus making it less likely to favor adhesive formation. Blood in large amounts, however, is inimical to restoration of function after joint fractures. It has, therefore, been my practice to aspirate joints distended with blood. A joint may be distended with blood or synovial fluid to a degree rendering full flexion impossible. Bone fragments which block motion should be reduced at once and held by dressing the limb in the position necessary to insure a full range of motion in flexion or extension as the case may be. In fractures of the condyles for instance, with backward displacement, after complete reduction and the forearm in acute flexion upon the arm, and the coronoid cavity filled with the coronoid process, there will be no trouble about full flexion function. But to safeguard against a limited extension very early resort to extension must be had, indeed within a few days. Violence in these secondary movements must be avoided. Gentle voluntary movements are preferable when permissable; but where this cannot be performed on account of the extent of the disability, then gentle passive movements should be made. Delay is apt to render these movements even more difficult. At the earliest, measures to limit swelling and hasten resolution, should be employed. Hot fomentations or other applications of heat favor resolution in the soft parts. Massage is especially beneficial from a very early period. Within one week is not too soon, and usually light massage after three days is desirable. It should not be delayed beyond the first week. In fact as soon as it becomes prudent to remove the primary dressing, measures should be instituted to improve the circulation, promote absorption and restore joint function. It is a common fault to treat for restoration of bone damage and to forget restoration of physiological function of the involved or adjacent joint.

It is the writer's experience and observation, that much of the ankylosis of joints, is produced by the improper application of splints, too tight bandaging, and improper initial reduction of the fractures. Imperfect reductions lead to attempts to crowd the fragments into position by force exerted through the dressings upon the parts. An example of this is best illustrated in fractures of the wrist, where the soft parts are prone to damage from any undue or prolonged pressure. Most wrist fractures are over splinted, and too greatly compressed. When well reduced, very slight dressings are necessary. Ether anesthesia or local analgesia is usually essential to proper reductions. The X-ray should verify their accuracy. Proper reductions require but slight dressings, these removed and the parts manipulated daily after three days or a week result in normal function in five or six weeks. There should be full restoration of strength after two months. It is a frequent observation in referred cases that too prolonged fixation occasioned by delayed or non-union is a frequent cause of stiff joints. The retarded union may become of secondary concern when ankylosis is liable to result from further casting or splinting. A case in point was that of a patient who came to the writer for an operation for fibrous union in a vicious position in the middle of the right femur after five months. The knee was already so stiff that attempts by the attending surgeon to break up adhesions under anaesthesia had been resorted to one week previously. The left foot had been lost from a railroad crush when the other thigh was fractured. A re-amputation of the stump was required to secure a good result. It was advised that this amputation be done first, and that diligent treatment be directed to the restoration of function in the knee. Its treatment was by heat, and voluntary and passive forced flexion daily, increased gradually to the point of tolerance. In six weeks right angle flexion had been secured. It was then thought possible to do the open operation for the non-union. The splice mortice method was used, there being two and one-half inches of shortening. The fragments were held in apposition by means of long drills, diamond point drills tempered at their points only, introduced staggered, and at tangents. These were removed in ten days and no ill results followed their use. A mechanism to permit motion at the knee introduced early would have saved its function. Ankylosis of this knee was well advanced after five months immobilization, and to have continued it further by operating upon the non-union at once, and immobilizing this knee that had been forcibly manipulated under an anesthetic but five days before, would have made a stiff knee a certainty. To guard fully against this likelihood during immobilization of the fractured femur, at the two weeks period, a Turner knee splint was incorporated in the plaster hip spica, which was renewed at that time. This permitted flexion at the knee to be performed daily without disturbing the fracture. The man was sent home wearing this apparatus and the movements were continued at his home. The end result was a solid femur, and a knee with nearly perfect function. Had the man had a stiff knee, with an artificial limb on the other side, his disability would have been infinitely greater.

Another case was that of a man who had so slight a union in his fractured femur that it had refractured. It had then been plated. He was wearing his cast eight months afterwards when first seen by me. Union was still uncertain and the plate off at one end. The plate was removed. The knee was stiff and is so still, with less than five degrees of motion, and little present prospect of increasing it. The union is improving but is not strong.

Captain Alexander of the Royal Army Medical Corps, British Medical Journal, September 13, 1919, calls attention to another class of "stiff knee" which follows compound fracture of the shaft of the femur in which the limitation of flexion is not due to articular so much as to periarticular and muscular changes.

"This is the type which yields very satisfactory results with careful treatment. Stiff knee after compound fracture of the femur may be due to articular, periarticular, or muscular causes. It is chiefly the changes in the quadriceps which cause stiffness.

"In a typical example a markedly wasted and scaphoid quadriceps exists. On passive flexion of the knee, considerable pain is generally caused by periarticular adhesions, but if these are absent, a very much shortened quadriceps prevents flexion for more than a few degrees. This means that the normal function of extensibility and contractibility are absent; that in parts dense scar has replaced the muscle tissue; and that there are scars of healed sinuses reaching down to bone. This state of affairs has resulted from the original injury, the persistence of sepsis, and prolonged disuse.

"Histologically the picture varies with the position from which the sections are taken. Those near the septic focus show absolute replacement of muscular tissue by scar, while other sections show decreasing amounts of scar. Coagulated fibrin binds down the muscle fibres."

"Throughout the muscle there is considerable shortening of individual muscle fibres, which, in addition to showing marked contraction in size, are in a state of partial degeneration, and as a result of prolonged disuse have "forgotten" how to function. This condition is that of typical disuse-atrophy.

"There is a certain degree of regeneration going on as a result of proliferation of sarcolemma nuclei, and muscle cell budding and splitting. The survival of the young muscle cells thus formed depends upon the degree of encouragement they receive to function; otherwise they run the risk of destruction before they reach maturity, either by disuse-atrophy or by condensation of the recently formed scar tissue. Their failure to survive only increases the amount of fibrous tissue formation.

"During the treatment of compound fracture of the femur there are all the necessary conditions for the formation of fibrous tissue in muscle—namely, trauma, sepsis, and prolonged disuse. In the neighborhood of the fracture and about each sinus, the muscle is riveted to the bone by dense scar. With a normal joint such a shortened muscle forms a considerable obstacle to flexion of the knee. Similar changes are found about the tendon sheaths and in tendons and ligaments around the knee-joint due to the same causes.

"Treatment should be first prophylactic, by chemical sterilization, removal of all sequestra, and early secondary closure of wound when possible. Secondly, any scarring which binds the muscle to the bone and all intramuscular and periarticular adhesions must be broken down. Thirdly, the normal functions of contractibility and extensibility must be restored and growth of young muscle cells encouraged.

"As soon as the condition of the wounds permits, the quadriceps should be treated by graduated contraction by means of the Bristow faradic coil. This loosens intramuscular and periarticular adhesions and restores tone to the muscle, which begins to increase in size."

Specialists in deformities are in a position to see the unfortunate results and failures of others, and are wont to be pessimistic, and hence pedantic. But we all learn more from our failures than our successes. I, therefore, can justify myself in sounding don'ts.

We must not lose sight of the necessity of preserving the function of joints in fractures. Otherwise we have failed in our full duty. Though this teaching and practice was well known before the war, it has been enormously emphasized by that experience. This paper represents a further attempt to force home this feature of the treatment of fractures upon the attention of our neighbors and fellows.

A Review of Affections and Observations of Tonsillar Diseases.

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I shall endeavor to place before you only a brief review of affections and observations of tonsillar affections, claiming nothing exhaustive or entirely original for the article, but hoping thereby perhaps to provoke discussion.

Under the heading, it is perhaps well to note the kind of tissue found in the tonsil. The faucial tonsils are composed of lymphatic tissue, having power within themselves of ingesting and rendering inactive and even digesting invading bacteria, when the invading organism is not too toxic. They are in direct lymphatic connection with the superficial and deep lymphatics and also the apices of the lungs. Situated as they are, between the faucial pillars and close to the base of the tongue on either side of the upper end of the respiratory and deglutory tract, we see at once the advantageous location of these two sentinels when needed to protect the system from invasion. Let us here note that wise provision was made against such invasion, and that they are liberally reinforced by many of the glands of similar tissue, but less pretentious in size. We may call them, however, first defenses.

Other defenses are:

1. Epithelial covering of the upper respiratory passages.
2. Lymphatic tissue of Waldermeyer's ring or tonsillar ring.
3. Cervical glands.
4. Bronchial glands.
5. Endothelial lining of the blood and lymphatic vessels.
6. Serum and leucocytes of the blood.

The tonsils themselves have great haemolytic and bacteriolytic properties, and as long as the epithelium of the crypts is in a state of health, an equilibrium between immunity and infection is maintained. This is done by a biochemical destruction of the micro-organisms in the crypts through the agency of a viscid ferment thrown out by the epithelium, under the stimulus of the retained bacteria.

When the cellular tonicity is impaired the equilibrium is also impaired and infection occurs. In other words, when the cell defense is overcome by the bacterial toxin, the cells give way and the invading hosts penetrate the epithelial barrier and enter the deeper tissues of the tonsil and on through the lymph channels to adjacent superficial and deep glands—chiefly the deep cervical, the thoracic and on into the thoracic duct and the general circulation.

By this route we can readily see why under certain conditions the tonsil is so peculiarly susceptible as an atrium of infection for many diseases entirely extraneous to itself. I will mention but one of these as an example —Tuberculosis.

In America it is variously estimated that from two to ten per cent of all diseased tonsils contain tubercle bacilli. This does not necessarily signify that they are themselves tuberculous. But these micro-organisms can easily pass through the lymphatics of the deep cervical chain to the thorax, then through the hilus of the lung to the pulmonary lymphatics, where they may become active. I might state here, that abroad, especially in India and Austria, tubercular tonsil percentages are considerably higher than in America, perhaps because of the greater prevalence of tuberculosis. From the foregoing, we may conclude that tonsils have a special function:

1. It is a barrier against invasion of micro-organisms—its power in this capacity being limited by the age of the patient and the condition of the tonsil.

2. It is a frequent atrium of infection for extraneous diseases, that is, septic thrombophlebitis, acute endocarditis, rheumatic fever, pulmonary gangrene, etc. having their initial lesion in almost all cases in the tonsils. Of course the invasion of these pathogenic organisms is promoted by the virulency of the germ and by local and constitutional conditions.

Tonsilitis is very often associated with the infectious fevers such as scarlet fever, diphtheria, etc., and care should be exercised so that no snapshot diagnosis is made in these cases. Allow me here to say that in my opinion ninety per cent of all acute ear affections have their origin in nose and throat affections and particularly so, when these have been neglected or improperly treated. The tonsils continue to be the chief point in discussion and operation in the throat specialist's field. The fact is that the internist and the general practitioner have become thoroughly convinced of the etiologic significance of the tonsil in the development of rheumatism and allied disorders.

Dr. J. Matthews, formerly of the Mayo Clinic, recently reports 300 patients affected with rheumatism operated upon; of whom 75 per cent were either cured or obtained relief. Of 1,000 consecutive tonsillectomies there were no severe primary hemorrhages, some degree of bleeding within the first 24 hours was noted in 30 per cent of the cases, less than half of which required any medical attention.

Late secondary hemorrhages occurred in 34 cases—4 on second day—2 on third day—3 on the fourth day—6 on the fifty day—8 on the sixth day—and 10 after the sixth day, or not stated, only 3 of which required the attention of a physician. I will give, briefly, the indications and contra-indications for the removal of the tonsils:

1. One of the most important points to be considered in judging whether a tonsil should be removed or not, is the size of that tonsil in relation to the individual throat.

2. All tonsils that seriously interfere with respiration should be removed.

3. Small or large buried tonsils associated with enlarged cervical glands should always be completely removed unless some other definite cause is found for the condition.

4. The only certain cure for chronic tonsilitis is the radical removal of the tonsil. Neither the so-called conservative measures nor incomplete removal offer the prospect of a certain cure. My contention is that great care should be exercised in selecting our cases for operation and that we should be guided by a sane and safe conservatism and common sense and not be carried away by the idea that every tonsil that we can see should be removed.

Contra-indications:

1. Tonsillectomies should never be done during the state of acute tonsilitis, on account of the danger of cerebral abscess.

2. Diabetes.

3. During an acute attack of rheumatic fever or acute chorea.

4. As a general rule, tonsils should not be removed in children up to 5 years of age, simply because they are somewhat enlarged,

although I believe one is justified, even at two or three years of age, in the removal of tonsils that are greatly enlarged and interfere with the child's breathing to a marked degree.

In conclusion, I believe the promiscuous removal of the tonsils, especially in children, without the finding of some associated pathologic condition is pernicious, and that all cases demanding operative interference should be selected,only after you are thoroughly convinced that you have found the condition present that justifies you in removing the tonsils.

Influenza Symposium.

H. J. Lehnhoff, M. D., Lincoln.

A great many of these cases can properly be classed in the same group with those of the epidemic of the fall of 1918. Therefore we may justly apply the term "influenza." At the same time we must bear in mind the fact that the etiological bacterium in this disease is still a bone of contention—or, in other words, unknown. That it is not the Pfeiffer bacillus has been pretty well demonstrated. The presence of streptococci is frequent. It would seem that the etiological virus is one that is yet unknown to bacteriology.

On the whole, the patients are not so profoundly afflicted as they were in the epidemic of a year ago. Those not having pneumonia are not so prostrated. The number of cases having pneumonia is not so great.

A recital of the symptoms and signs by which these cases are diagnosed must follow more or less closely, yet with some alterations, the descriptions of a year ago. There is usually a marked headache, often referred to the orbital area; backache, and aching in the lower extremities. A general prostration is marked. There is an injection of the conjunctiva. There is a dark red injection of the fauces, with an inclination to become edematous. There is a marked symptomatic tracheitis which reveals few physical signs. It is accompanied by a very irritating, wearing and more or less constant cough, which in the absence of pneumonia is very slightly productive. There is a substernal oppression which at times approaches a pain. Nausea is a frequent symptom; vomiting a little less frequent. Capillary or arteriole bleeding is almost universal.

In the non-pneumonic forms the temperature reaches its height of 104°, more or less, on the second or third day. The curve of the pulse rate is lower proportionately than the temperature curve. The character of the pulse is loose, approaching and occasionally reaching dicrotism. The systolic blood pressure is low. There is a leucopenia.

From these signs and symptoms one is warranted, in my judgment, in making a diagnosis of influenza.

Middle ear complications are extremely frequent.

The few cases of pneumonia which I have seen in consultation are not far different from those of the epidemic of a year ago. In general they have a number of "spots" of peribronchial invasion. In those cases in which the pathology progresses, these "spots" become confluent and may result in consolidation. The lung and the finer bronchial tubules become wet and logy. The respirations are increased, the temperature is not extremely high, the pulse rate is low, and cyanosis intervenes. Cardiac changes are seldom observed. There is more or less of an insult to the nervous system. The mortality is high.

In making a general review of this plague, some benefit and light may be gained by recalling the fact that as early as 1901-1902 "The Year Book" of Chicago recorded the observation that cases infected with La Grippe suffered more or less of a relaxation of the capillaries and arterioles. Granted that the virus in the epidemic of this and last year was of a very virulent type, it is, in my judgment, rational to consider the basic physiological-pathology not merely a relaxation of capillaries and arterioles, but more than that—a partial vaso-motor paralysis. Some reviewers of last year were wont to call the condition toxic shock, which physiologically is very similar to vaso-motor paresis. On the basis of the latter process can be explained all the symptoms characteristic of this disease, namely, headache, backache, leg-ache, extreme prostration, the profuse perspiration, bleeding into the conjunctiva, bleeding from the nose, from the throat, from the lungs, from the stomach, from the intestines, from the kidneys, from the uterus, and under the skin; the tenderness of the skin and muscles, the low blood pressure, the leucopenia, the excessive amount of fluid expressed from the lungs at post mortem; this latter condition, too, combined with the facts that (1) this fluid was often negative to culture tests; and (2) the presence of fluid with very seldom any signs, either ante or post mortem, of a failing right heart. The roentgen finding of a relaxed aorta in a large number of patients who had recovered from influenza a short time previous to the examination may have some bearing on the same point. That there is not enough evidence to prove this theory is absolutely true. However, it is the most satisfactory working hypothesis that I have heard suggested.

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We are asked to give the important symptoms and findings of influenza and the difference between the common epidemic grippe and the epidemic (so-called) influenza.

We are therefore writing about a disease the cause of which is unknown. Whether it is due to a specific germ now unknown, to a combination of the germs which have their normal habitat in the oral cavity and the respiratory mucous membranes—such as the different strains of the pneumococcus or the streptococcus—or to an unknown virus, remains for future investigation to tell us. We only know that there is an indefinite "something" which rapidly swept this country in the fall of 1918, hit communities with a terrific force and carried with it a mortality much greater than the pandemic of 1889-1890-1891, which was then first called influenza by Pfeiffer, who incriminated a bacillus which bears his name.

In the epidemic of 1918 the look of the patient was one of the most important things in diagnosis. In the last Journal of the American Medical Association, under Tonics and Sedatives, I noted this apt remark: "If they turn blue they have the flu."

Cyanosis from the very start is the rule in the severe cases. The patient looks extremely ill; there is a watery eye, and a discharge from the nasal cavity commonly producing sneezing. The typical chill of pneumonia is uncommon. The patient looks sicker than the temperature, pulse and respiration indicate. I have seen many sick folks with an advanced double bronchial pneumonia, with blue lips and blue finger nails, and yet with a temperature of 100, pulse around 80, and respirations 20. There is a marked tendency to hemorrhage from the nasal and oral cavities and if blood is spat it is usually fresh blood. The lack of prune-juice sputum, as in typical pneumonia, a lack of an increased leucocyte count, and the blood culture findings of a type for pneumococcus, or a green streptococcus, are, I believe, the most important symptoms and findings. The severe cases last but a few days. The virulence seems markedly increased in pregnant women, and the course in the fatal cases is short—from 3 to 4 days only. Autopsy findings show a bloody lung, with multiple areas of broncho pneumonia; and frequently a hemorrhagic bowel is revealed.

It seems to me that the 1918 epidemic was much more virulent, as can easily be shown by comparing vital statistics during October, November and December of 1918 to the same statistics in January and February, 1920. The epidemic of 1920 started mildly, as that of the old so-called grippe to which we are accustomed. The druggists, and many doctors in Omaha, tell us that more people were sick and confined to their homes during January of this year than at any time during our previous epidemic. There was the same tendency to hit most of the members of the family, as last year, but the mortality was by no means so great—showing that the virulency of the causative organism, if it be a causative organism, is much reduced.

In my experience this year the cases of the blue lip, tendency to bleeding type, are less frequent than was true last year; and it seems to me that our epidemic is rapidly on the wane, both as to the number of people attacked and the virulence of the attack.

James M. Patton, M. D., Omaha.

Although the oculist sees many cases complaining of indefinite ocular symptoms which the patient is sure are secondary to the "flu," there is practically nothing in the early stages of the disease which shows any definite ocular symptoms. Sometimes the patient will complain of an indefinite eye strain with a sensation of burning and light irritation which are suggestive of the onset of this trouble. In the cases of so-called lethargic encephalitis which are thought to be more or less directly the result of the "flu," the diplopia, drooping of the eye lids, and sometimes definite deviation of the eyeballs, either upward or horizontally, even with paresis of one or more of the extra-ocular muscles are almost always the first symptoms noticed and should call the attention of the attending physician at once to the possibility of this all too frequently fatal complication.

Clyde Moore, M. D., Omaha.

The epidemic with which we are at present dealing in Omaha, has been very extensive and at least among infants and children, rather mild in type. The cases all present a definite clinical syndrome. In fact there is such a similarity among the cases that a report of one case would suffice for nearly all. The disease has a high degree of contagiousness and where one member of a family becomes affected, all become sick with the disease within a week. The period of incubation, judged by the time elapsing in a family where a definite exposure is noted, is from 24 hours to 3 or 4 days. The onset is sudden. Most of my cases gave a history of feeling fine during the evening before and then suddenly in the night the mother noticed a restlessness and high fever. Vomiting occurred in approximately 10% at the onset or soon after. Frontal headache, pains in the limbs, fleeting in character, backache and general malaise were the usual symptoms given by children old enough to note them. In infants restlessness and high fever were the usual symptoms noted at the onset.

Symptoms.

Fever: Initial rise to 102°-103°, persistently high during the first 24 hours, sometimes going to 104° during this time. During the second day a more marked irregularity develops; the fever jumping from 99.5° and 100° to 103° and 104° within an hour or so. I have noticed in the cases under my observation that about the third day the temperature will drop to normal and stay there all day and possibly the day following and then without apparent cause soar up to 103° or 104° again, hovering around this for 12 to 18 hours and then drop to normal or subnormal. Some cases have even had a third relapse.

Nervous symptoms: In the early stages there is an increased irritability, though this is not more marked than in any fever. During the first interim of fever the baby often feels well and acts normally. With the second rise in temperature the irritability often becomes very marked. After this there is a period of depression which in the young infant may be so severe as to be the cause of a great deal of worry.

Digestive Symptoms: Vomiting occurred in between 10% and 20% of the cases, usually early in the disease. It was due to an acid intoxication in the majority and responded readily to the free use of bicarbonate of soda.

Diarrhoea occurred in a few cases at the beginning of the epidemic but after the use of milk was forbidden during the febrile stage there were no further cases of diarrhoea. Indefinite abdominal pains were complained of in some cases. I had no cases in which these were severe or required special treatment. Anorexia occurred in practically all during the first few days of convalescence.

Respiratory Symptoms: At the beginning there was usually a short hacking cough, not very severe. Approximately 20% had a laryngeal cough and a few developed a moderately severe laryngitis, of 3 or 4 days duration. A substernal pain and feeling of constriction about the chest was a common complaint among the older children. At the time of or just after the second rise in temperature a number of my cases developed a constant, severe hacking cough. The mothers stated that the coughing was almost continuous and would not allow the child to sleep. This would gradually diminish during the next 48 hours.

A slight nasal discharge with congestion of the turbinates occurred in all cases. Epistaxis, varying from a few drops to severe hemorrhages, was a symptom coming on about the third or fourth day in about 5% of the cases.

Genito-urinary symptoms: There were no symptoms of this nature in any of the cases which I observed.

Muscular symptoms: Extreme weakness was not very common. Most cases showed a moderate degree of weakness which rapidly disappeared. Two cases were unable to walk without falling for 48 hours after the third rise in temperature although seemingly feeling well when lying or sitting quietly.

Physical findings: There were 4 characteristic physical findings in these cases. All four were present to some degree in every case and in the vast majority were very evident. These were:

1. A granular inflammation of the palpebral conjunctivae. The eyelid was injected and a rather granular roughness could be noticed.

2. The same type of inflammation in the soft palate. This sometimes extended on to the hard palate and in severe cases involved the whole roof of the mouth.

3. A bead-like enlargement of the posterior chain of cervical glands, extending just along the posterior border of the sternomastoid muscle. The glands were frequently no larger than small shot but a chain of them could always be felt bilaterally.

4. A heavy, white coating to the tongue. The papillae were not enlarged but the red tips were very plain and stood out against the whiteness of the coating of the tongue.

No other characteristic physical findings were noted, the other physical signs depending upon the complications present.

Laboratory Findings.

Blood examination: A normal white count or one slightly below normal with a lymphocytic increase was the characteristic blood picture.

Bacteriological: Owing to the extensiveness of the epidemic very little was accomplished along these lines. Afew cases in which the bronchial secretion was obtained showed simply a mixed staphylococcic and streptococcic infection. The influenza bacillus was not obtained.

The urine showed no abnormalities.

In an epidemic at Hattiesburg, Mississippi, in 1918 in which I had opportunity to investigate between 1200 and 1500 cases corresponding exactly in clinical history and physical findings with the present epidemic, we were able to isolate the influenza bacillus in 40% of the cases. In the early cases the bacillus occurred in large numbers associated with a large gram positive diplococcus, probably the diplococcus catarrhalis.

While reasoning from analogy is neither safe nor scientific I believe that the present epidemic is due to the same bacteria as those observed in the epidemic at Hattiesburg and that it differs from the severe type of disease prevalent last year throughout the country in the fact that it is not complicated by the virulent strain of streptococcus which seemed to be the causative factor in most of the fatal broncho-pneumonias.

Complications: Broncho-pneumonia occurred in three cases. The mortality was 100%. All three cases were in infants physically much below the average. One was in a case of Little's disease, the second in an under nourished infant and the third in a case of severe rickets complicated with tetany. The last two cases came under our observation at the University hospital only during the last stages of the broncho-pneumonia.

Red Cross Gives Accounting.

The War Council of the American Red Cross has issued the first installment of the complete report of the activities of the Red Cross during the war. Out of a total expenditure of $273,000,000, a sum approximating $119,000,000 was spent in the United States. For every dollar of the $400,000,000 in money and material collected, more than a dollar and one cent was available for war relief, due to the interest earnings on the funds reaching a total of over $2,766,000. The following figures give some conception of the undertaking directed by the war council. There were engaged in Red Cross activities 8,100,000 persons; 371,577,000 articles were produced by volunteer workers; the families of soldiers aided numbered 500,000; knitted articles given to soldiers and sailors numbered 10,000,000; there were shipped overseas 101,000 tons of supplies. The Red Cross worked in twenty-five different countries. In France 1,155,000 patient days were given in Red Cross hospitals. The French hospitals given material aid numbered 3,780. There were 294,000 splints supplied to American soldiers. The men served by Red Cross canteens numbered 15,376,000. There were 1,726,000 refugees aided in France. On May 1, 1917, just before the appointment of the War Council, there were 562 chapters with a membership of 496,194 adults. On February 28, 1919, there were 3,724 chapters, embracing a membership of 20,000,000 adults and 11,000,000 juniors.—New York Medical Record.

The world has never followed ideas; it has ever been moved by feeling. Feeling is elemental and precedes thinking.

Revelling in the domain of mind, men speak or write as they are influenced by mind laws, wholly ignoring or unaware of the fact that mind is a product of brain function.

"He that lives according to nature will never be poor, but he that lives according to opinion will never be rich."

Epicurus B. C. 300 yrs.

Intellectuality produces a kind of long and short sightedness, without the power to grasp an elementary statement of fact regarding the simplest distinction, when dealing with matters inter-dependent for their existence.

Education and Recreation in the Army.

Education and recreation will be important factors in the training of the soldiers in the new army. Much illiteracy as well as physical inefficiency was found among the millions of men who were drafted into the service during the war. The Commission on Education and Special Training did most excellent work. It is now proposed for the new ship will be produced.

Congress appropriated the sum of $2,000,000 to be devoted to that purpose during the fiscal year of 1920. Accordingly, in September of 1919 instructions went forward to the commanding generals of all divisional camps army not only to make a military force, but they are to have the benefits of a great educational institution where men of the best mental, moral and physical conditions, and with the highest ideals of patriotic citizen- and territorial departments, who at once appointed on their staff's officers known as Education and Recreation Officers to assume direct charge of the work. Each officer has associated with him at least one civilian expert in educational affairs, who furnishes assistance and advice in establishing schools and manual training classes.

The Secretary of War wishes to show that the army is now in reality a great training school. The army is to become a vast university in khaki. The army is to assume responsibility for the entire twenty-four hours of the soldier's day, and see that every portion is gainfully spent in useful study and helpful recreation. Education, recreation and military training are to have equal places in the daily programs. The object is to make the soldier a thinking human being. The training is to guide his mind in the direction of right thinking. The aim of training is to place as much responsibility on the man as he can stand. This stimulates his pride and raises his self-respect, and urges him to better effort. The aim is character building. Every soldier may sooner or later become a leader in a smaller or greater sense. In battle direct responsibility very frequently goes out of the hands of the officers, and small groups of men must accomplish objectives by themselves; hence leadership must often be assumed. It is to develop latent qualities of leadership that this educational program has been inaugurated. If the officers are men of high standing they create respect and increase the morale of the command, consequently a high state of discipline, instruction and consequent usefulness. Officers of the future must be thoroughly trained, not only as military instructors to the men, but also be their leaders in all sports and recreation. The army chaplain will have greater responsibilities. He will be an important factor in all camp activities formerly furnished by the Y. M. C. A., Knights of Columbus, etc., and the Americanization of aliens. Under the present plan men may become carpenters, blacksmiths, pharmacists, dental assistants, engine workers, mechanics, draftsmen, stenographers, truck gardeners, motor drivers, repair men, telegraphers, radio and telephone operators, etc. English, geography, mathematics, United States history and modern languages are to be taught.

A standard war department certificate will later be adopted.

The aim is to make the army in time of peace a more valuable factor in the life of the nation. It is to train men in high morality and good citizenship.

Self-satisfaction always means weakness and a break in our connection with the source of power.

There is vast hope for us when we commence to be hopelessly dissatisfied with ourselves.

Help that wins is pity without patronage, and compassion without contempt.

A teacher is one that develops the will of man into the will of God.

There is a bigger thing than literature in this life, it is LIFE.

There is a great deal larger leadership than the leadership of intellect, it is the leadership of sentiment.

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The Small Hospital in the Country Town.

The small hospital as an institution in communities remote from the larger centers of population is with us and has come to stay. The tendency of the times is toward the development of medical centers in the smaller places. Every observer must have noted the establishment of small emergency hospital facilities, or the building of hospitals more or less pretentious in the agricultural districts of Nebraska during the past several years.

That this is as it should be can scarcely be gainsaid, for the institutional idea of caring for the sick is growing in popularity. Broader scientific medical knowledge and methods are coming to the fore, greater responsibilities are thrown on the profession everywhere, greater accuracy of diagnosis has become a necessity, and with this, more advanced methods and more modern facilities for treating the sick are being introduced in places not metropolitan. The work of the medical profession is growing, not diminishing, but in a more truly scientific manner.

County Hospitals, as provided for by a recent legislature in this state, while theoretically correct, will be slow in developing in a purely agricultural and comparatively sparsely settled state. Every community of several thousand population can and will support a hospital in which the emergency and general surgery of the community can be done and in which at least some of the more modern methods and appliances for treating chronic non-surgical cases will be available. Every such town and community will support an eye, ear, nose and throat surgeon.

The Nebraska profession, urban and rural, is second to none in progressiveness, as is evidenced by the constant stream of medical men attending the clinics in eastern cities, and national and district medical and surgical society meetings.

It may be safely assumed then, that generally speaking, the work done in the smaller hospitals will be fairly comparable with that done in the larger metropolitan institutions. And yet, there is a real danger that ill fitted men, prompted by the commercial spirit, may overreach themselves and disgrace surgery. A well known surgeon speaking to the writer of the surgical tendencies developed in returned medical corps men, said: "There will be some very wonderful surgery done in the next two years!" And this will apply with perhaps greater force to others who were not in the service.

The organized profession must insist on a standardization of the smaller hospital in accordance with the standardization now well started under the auspices of the American College of Surgeons.

Our Annual Meeting.

That occasion will be upon us soon, are we ready for it? Have you made any definite plan to attend the annual meeting and contribute to our better understanding of medical problems that will be presented there, or of telling us concerning truths known to only a few that you could support by adequate proof of their beneficial and practical use to other members of the medical profession? The procuring and arranging of a scientific program acceptable to all our members is not a human possibility. Our committee must strive to prepare a program containing the greatest good to the greatest number in our membership of over 1,000. The time allotted for the presentation of our scientific program is four half-day sessions. As papers usually run, their presentation and discussion included, will not permit of more than five each half-day session. Will you as one of those selected to present a paper in our scientific program present your theme briefly, logically and concisely? Reference to text books is certainly permissable, but lengthy quotations supporting a proposition usually lessens interest, and seldom enlightens the listener. We are anticipating an attendance of more than one-half of our enrolled membership. Can you afford to miss hearing the fund of information they will furnish by the discussion of problems presented, and having part in the good fellowship afforded us by such meetings?

Avoid Unnecessary Trouble.

In our Department of Public Welfare, Division of Venereal Diseases, under direction of Dr. P. H. Bartholomew, and of Vital Statistics under direction of I. H. Dillon, these heads of their respective departments have suggested to the Journal a growing disposition on their part to "cease writing diplomatic notes" and substitute therefor coercive measures, to obtain legal compliance with our state laws that require physicians to report venereal diseases, also births and deaths. As intelligent advocates of sanitation and preventive medicine, we should by example lead the public in compliance with the plainly written legal requirements incident to our professional privileges. Being too busy to attend to our business, is a common but always self-deceiving excuse. If you have lost, or did not receive the blanks necessary for said reports, write at once to H. H. Antles, Secretary Department of Public Welfare, Lincoln, Neb., and your request will have prompt attention.

Suggestions.

The Health Commissioner of Omaha, Dr. J. F. Edwards, has completed new rules and regulations in accord with a recently enacted city council mandate for the management of infectious diseases. Of course those designated as communicable and ordered placarded, relate specifically to Omaha, but may suggest adoption by physicians elsewhere, who need the support of other health officers, for maintaining sanitary rules in their centers of practice.

For the benefit of physicians who have not read in the daily press the rules outlined, we print them in this issue of the Journal.

CITY OF OMAHA, HEALTH DEPARTMENT

Influenza Quarantine Regulations.

The State Board of Health has placed influenza on the list of quarantinable diseases. It is the duty of the Omaha Health Department to enforce these regulations to the letter.

The following instructions are given for your guidance:

All inmates of your house who have been in contact with the diseased person must remain in the house until the quarantine is released. The state health department requires that no exceptions be made to this rule.

No person except the doctor and nurse is allowed to enter or leave the house while the quarantine sign is on.

Necessary supplies may be brought to the house and left outside the door.

Soiled clothes may be sent to the laundry if placed in a package covered with paper.

Handkerchiefs should not be used in the sick room. Gauze or cloths should be substituted and these should be burned when soiled.

Inmates of the house other than those necessary to care for the patient should avoid the sick room.

The health department will release the quarantine when the doctor informs us that there is no longer contagion. He can only do this when there has been no fever for four days.

Fumigation is unnecessary.

Any one violating the provisions of the quarantine will be fined from $15 to $100.

Advices are that influenza is recurring in epidemic form in some cities. The majority of cases are milder than in the former epidemic. During the past week, in this city, 101 cases have been reported to this office. The department earnestly requests your co-operation in preventing its further spread. All cases should at once be isolated and reported to the department. Owing to difficulty in diagnosis in the milder cases, it is urged that all doubtful cases be regarded as influenza at least insofar as isolation and other home precautions are concerned if not for the purpose of reporting, and that at present, all cases of coughs and colds be advised to remain at home.

At a conference with the Advisory Committee appointed by the Douglas County Medical Society consisting of Drs. J. P. Lord, A. D. Dunn and E. T. Manning, the following recommendations were made and they are endorsed by this office:

First: That we urge doctors that cases showing respiratory symptoms of cough, bronchitis and signs of pulmonary involvement with maximum temperature of above 101 degrees, be considered as probable influenza and reported at once.

Second: That we urge hospitals to isolate in special wards, all cases of upper or lower respiratory involvement and that these be cubicled in order to prevent cross infection.

Third: That we urge treatment at home of all cases where conditions are suitable and when this can be done with minimum danger of transmission to the public.

It is highly desirable at this time that persons who are coughing or sneezing, keep out of street cars, offices, factories or elsewhere where people come in close contact. Physicians will perform a public service if they can prevail upon such persons to stay at home and also to advise people just at present to avoid crowds, especially crowded public conveyances, and to do their shopping and other selective occupations at other than the rush hours. If the Health Department can co-operate with you in any way, it will be glad to do so.

Respectfully,
James F. Edwards,
Health Commissioner.

The Epidemic of Cerebro Spinal Meningitis in Crete.

H. W. Quirk, M. D., Crete, Neb.

The first known case was one reported by Dr. Hartman in the early fall, a pregnant woman who was suddenly taken ill with paralysis of the lower extremities. This case was seen by a Lincoln physician, and spinal puncture revealed diplococcus intracellularis, but this case does not seem to have had any connection with the present epidemic and has been thought by some to be one of poliomyelitis.

The first case of the present epidemic was possibly the first one in Dr. Conrad's accompanying report, on Jan. 10th.

Another case was a lad of 19 living nine miles north of Crete, who had not visited Crete for more than a month. He was seen by Drs. Stejskal and Pallett at 5 p. m., temperature 105° in the axilla, pulse 130, respiration 36. Had complained of severe frontal and occipital headache; expulsive vomiting, tetanic opisthotonas, reflexes, abolished; Babinski present, Kernig's present; dark petechiae on chest, arms and back; no swelling of joints; abdomen scaphoid. Soon became unconscious and died at 2 a. m. the following morning, before spinal fluid could be obtained.

There were two cases at Doane College, one treated by Dr. Conrad as described in his report, who recovered, and one treated by Dr. Hartman and Dr. Covey, of Lincoln, which proved fatal.

Another fatal case was a high school girl aged 18 years, who was seen by Drs. Hartman and Covey. She was taken sick Tuesday, Jan. 27, and died Friday, Jan. 30.

Another case was Anton P., a lad of 14 years, in the grade school, who has partially recovered, but is still deaf. He was treated by Drs. Stejskal, Quirk and Conrad. This case developed within twenty-four hours petechiae particularly on body, limbs and face; rigidity of neck and back and some opisthotonos. He was also deaf. Temperature 102° to 104°.

In all of these cases the diagnosis was confirmed by spinal puncture, diplococci being present, and the most of them received large doses of serum, both intraspinously and intravenously. Some received as much as 90 cc. per dose.

Two other cases, one a boy of 10, and another a man of probably 40, died within a few hours after being taken sick. It is not definitely known these were meningitis, although fluid drawn from the boy's spinal column after death proved negative upon examination; the other case received no spinal puncture.

Another case was the son of Dr. Pallett, aged 18 years. He was taken sick Monday night, Jan. 19. Until Tuesday afternoon the illness was considered trivial, but the symptoms developed rapidly and he died early Thursday morning. Tuesday he became deaf and unconscious. This case was seen by several Lincoln physicians, spinal fluid drawn, diplococci discovered and serum injected.

More recently a boy of about 10 years, living six miles southeast of Crete was taken suddenly ill with chills and fever, soon becoming unconscious and died within 36 hours. Fluid drawn from spinal column was found cloudy, but contained no diplococcus intracellularis. Drs. Stejskal, Pallett and Lehnhoff saw this case, which was probably a case of meningitis following "flu" but not of the epidemic type.

During this epidemic Dr. Dillon, state health officer and Dr. Wilson of the State Board of Health, Dr. Smith and Dr. Covey, bacteriologists of Lincoln, visited Crete at the solicitation of our local board of health. Swabs were taken from nose and throat of college and school students and also of creamery employees, and carriers were discovered in Doane College, high school and grades and creamery employees to the number of about 55. Schools, churches and all public gatherings were prohibited. Vaccinations and intravenous injections of serum advised to be used on carriers, also nose and throat spraying with dichloramine, and drops of argyrol in nose and eyes, until after cultures from nose and throat after five days interval had proven negative. The ban was once raised, but after a new outbreak was again resumed, and finally raised on Feb. 29th.

Meningitis at Crete, 1920.

A. A. Conrad, M. D., City Physician, Crete, Neb.

Jerome C. Age 20. Had been irritable and "off feed" for about two weeks previous to present illness. January 10, 1920, became nauseated and vomited while running picture machine at Lyric theatre. During second show developed severe headache and went home on foot with assistance. During homeward journey complained of pain in right leg. Was delirious all night, and on Jan. 11 became unconscious. I saw him first at 10:30 a. m., Jan. 11. Shortly before I arrived he had had an involuntary bowel movement. He was throwing himself about the bed in uncontrollable delirum. Neck was rigid, pupils dilated, did not react to light, petechiae on upper and lower eyelids and the conjunctives. Could not get reflexes because of delirum. Temperature could not be taken for same reason. Pulse 120 to 130. Anal sphincter dilated. Spinal puncture developed dry tap, serum given regardless. Patient rapidly grew worse and died Jan. 12, 4:30 p. m., covered with petechiae from head to foot.

January 26, 1 first saw Miss Evangeline S., age 17, who had been sick since January 25 with headache and vomiting and rigidity of neck, and diagnosed "flu." On January 26 her symptoms were headache, uncontrollable vomiting, rigidity of neck. Pulse 120, temperature 103°; by mouth. Semicomatose, pupils dilated, did not react to light, petechiae on eye lids and conjunctivae, palate, fore arms and legs, and a few on trunk. Cervical rigidity. Kernig marked, patellar reflexes increased. Diagnosed meningitis. The mother doubted, so Dr. Covey, of Lincoln, who fortunately was in town with some serum, was called in consultation. Spinal puncture confirmed diagnosis, and diplococcus meningitis found in spinal fluid. Intravenous and intraspinal serum pushed in large doses, with complete recovery in twelve days.

About January 28 Dr. Hartman reported a new case. February 11 I saw Anton P., aged 15, with Dr. Stejskal. I will leave the report of this case, which is recovering, to Dr. Stejskal. About February 14, Dr. Pallett reported a new case, age 10 years.

From the Medical Clinic Methodist Hospital.

W. O. Bridges, M. D., and R. Allyn Moser, M. D.,
Omaha.

Clinical Diagnosis: Recurrent cardiac decompensation from myocardial disease, cardiac hypertrophy and dilatation; passive congestion of the lungs, liver and kidneys.

Anatomico-Pathological Diagnosis: Chronic fibrous myocarditis, partial adhesive pericarditis; partial adhesive pleuritis; perihepatitis; passive congestion of the lungs, liver, spleen and kidneys.

This case represents an unusual persistence of life (five years) after a serious cardiac decompensation attended by general dropsy and ascites, with several recurrences, and was presented before the University Alumni Clinic in 1915 at which time a differentiation between cardiac and renal dropsy was demonstrated by the phthalein functional kidney test.

H. P., single, age 55, peddler, was admitted to the hospital May 21st, 1914, with the following history:

Family: Father died at the age of 65 cause unknown; mother died at age of 83, senility; he had four brothers all living and well, and three sisters well, one died when an infant, following a severe burn.

Previous history: Ordinary diseases of childhood. Never had tonsilitis or rheumatism. Has had what he called chronic bronchitis for two years and had pleurisy of the right side in December, 1913, and again in January of this year. Otherwise he had always been well.

Present history: Until June, 1913, patient had felt in good health but at this time he had an attack of sudden pain in his left chest, so severe that he had to sit down to keep from falling down. He stopped work at this time for only a few days. In December, 1913, he had another attack of sudden pain, this time in his right chest, which was diagnosed pleurisy by his home doctor. He then had a similar attack in January of this year, during which his sputum was blood streaked. Since January he has been short of breath on exertion, has had a feeling of pressure following his meals. This shortness of breath with weakness has increased in severity.

He noticed swelling of his extremities three weeks previously, which gradually increased and finally extended into his scrotum. His abdomen also became larger. He had difficulty on lying down, especially during the night. Urination has been frequent and rather scanty.

Physical Examination. Patient fairly well nourished. Eyes normal, reacting to light and accommodation. Mucous membranes rather pale; lips slightly cyanotic.

Lungs. Diminished resonance over both lower lobes posteriorly with variable moist rales throughout, more numerous over both bases.

Heart. Apex beat in sixth interspace, one inch outside of nipple line. Area of cardiac dullness increased. There were no murmurs heard. Sounds all rather indistinct. Pulse was slow, fifty-two, bigeminal in type and the vessels were tortuous but soft.

Abdomen. General tenderness on pressure over entire abdomen, dullness on percussion, which changed with position, in both flanks. The liver extended to three fingers below the costal margin, and was tender. Marked edema of lower extremities, and scrotum.

Urinalysis. Straw colored, clear, acid, albumin 2 plus, sugar negative, few hyaline and granular casts; amount, twenty ounces in twenty-four hours.

The patient was put absolutely at rest, given milk diet, and calomel grains ½, powdered squills grains 1, and powdered digitalis grains 1, every 4 hours. Was given magnesium sulphate every morning, and hot abdominal packs three times a day. This was continued for five days, when the calomel was omitted and strychnine sulphate, grains 1/40 substituted. The next change was to discontinue the digitalis and squills, and give caffeine citrate in its place. This was continued about two weeks.

From the beginning he improved, the urinary output increased and the albumin had disappeared. The ascites disappeared as did the marked orthopnoea. In one month from his admittance he was discharged from the hospital and returned to his peddling.

On August 27th, 1914, he again returned to the hospital with the history that one month after leaving his dyspnoea returned and a little later his abdomen began to enlarge.

Physical findings this time were the same as before, except the abdominal organs could not be palpated due to the amount of ascites present. His abdomen measured forty-two inches at the level of the umbilicus. The urine again contained albumin, and the twenty-four hour amount was back to twenty ounces. Phthalein functional kidney test 55% in two hours. Blood pressure of 120; Wassermann test was negative.

He was again put on the digitalis, calomel and squills combination, which was alternated from time to time with caffeine citrate and tincture of strophanthus. He remained in the hospital until November 14th, 1914, during which time ascitic fluid to the amount of two to eight quarts was removed by paracentesis at four different times. On discharge he was much improved. No cardiac murmurs were heard, no cardiac irregularities and no edema was present.

Patient again returned to the hospital on January 5th, 1915, with symptoms of previous admittance; edema, a large amount of ascites and dyspnoea. This time he was put on tincture of digitalis and spirits of nitroglycerin. He was under observation 106 days, during which time he was relieved of six quarts of ascitic fluid at one tapping. When he was discharged again, there was no edema, and the twenty-four hour amount of urine was over fifty ounces.

Nothing further was heard of him until November, 1919, four years later, when he appeared at the office having walked up from the Union Station. He reported having been well enough to work for four years, until about a week before when he again began getting dyspnoeic with orthopnoea. Abdomen became slightly distended and he had general edema with marked general weakness.

Physical examination revealed the heart apex in the fifth interspace just outside the nipple line. Systolic murmur heard at the apex which was transmitted to the left. A2 and P2 were slightly accentuated; pulse rather weak and an occasional extra systole was noticed. Dullness on percussion over both lung bases, with fine moist rales throughout. Abdomen was distended and dullness present in both flanks. His liver was enlarged to three inches below the costal margin. General moderate edema present. He was again sent to the hospital and put on digitalis, calomel and squills combination.

The urinary output averaged 30 ounces in twenty-four hours with a small amount of albumin and a few hyaline casts. Blood pressure was, systolic 132, diastolic 80.

He steadily improved and was again up and around part of each day when on the evening of December 20th he had sudden pain over the precordium and in a few minutes went into coma for a short time and died.

Autopsy findings were as follows:

Subject a well nourished and developed man. No superficial glandular enlargement. Cyanotic over dependent parts.

Lungs. Chronic fibrous pleuritis with organized adhesions over right apex and a small spot on right diaphragm. Interlobar adhesions of left lung. Right lung was edematous and the left was almost completely atelectatic and very much contracted.

Heart. Acute dilatation, chronic fibrous pericarditis, a large organized band of adhesions between the wall of left ventricle and pericardium. Fibrosis of myocardium with marked thinning of the wall of the left ventricle. Calcified areas were present in various parts of the myocardium.

The tricuspid valve admitted three fingers; mitral valve neither stenosed nor insufficient; aortic valves thickened. Marked sclerosis of the coronary arteries was present but no thrombi.

Kidneys. Kidneys were slightly enlarged, and the capsules stripped easily. The cortex was contracted.

Liver was enlarged; surface roughened and marked fibrosis was present. Adhesions were present over the upper right lobe. The gall bladder wall was thickened.

Stomach, showed acute dilatation.

Spleen, was enlarged to about twice its normal size and omentum was adherent to this organ. Splenic surface was roughened and the capsule thick and firm.

Minutes of the Meeting of the Councilors and Board of Trustees of the Nebraska State Medical Association, January 7, 1920.

The Board of Councilors was called to order at 8:00 p. m. at the Lincoln Hotel, Lincoln, Neb., on Jan. 7, 1920, by Chairman Lehnhoff.

On roll call the following Councilors were present: Drs. Nielsen, Fouts, Cook, Potter, Stewart, Lehnhoff and Overgaard. A quorum being present, the Council was organized, Dr. Cook nominated Chairman Dr. Lehnhoff to succeed himself as our chairman for 1920; seconded by Dr. Nielsen. Motion carried. Dr. Nielsen moved and Dr. Fouts seconded the re-election of Secretary Dr. Overgaard. Carried.

Minutes of the last annual meeting were read and there being no objection, they were approved. Letters were read from Councilors Drs. Douglas and Sanders. Dr. Potter moved and Dr. Fouts seconded the motion that President Orr be requested to appoint Dr. Shields to fill the unexpired term of Dr. Sanders in the 10th District as per his request, and that Dr. H. E. Mantor be appointed to fill the vacancy in the 11th District.

The following reports were received:

1. Report of Secretary-Treasurer.
2. Report of the Certified Auditor of Public Accounts.
3. Report of Medico-Legal Defense.
4. Report of Librarian.
5. Sub-committee on Public Policy and Legislation.

1. Report of Secretary-Treasurer read: "The year 1919 was fraught with many difficulties for maintaining the State Medical Association membership and conducting the publication of our official Journal.

Our Membership Dec. 31, 1912 was 966; on Dec. 31, 1916—1,058; on Dec. 31, 1918—1,139 and on Dec. 31, 1919—1,120.

We transformed our difficulties into stepping stones toward better service to our profession and the Nebraska State Medical Association. During 1919 our Association was put on record in the State Capitol of Nebraska as an incorporated body and the corporate seal was made to show date of organization and the date of incorporation of our State Medical Association.

We solicited from the Librarian and Chairmen of standing and special committees their annual reports that we might offer them for your inspection at this meeting. Our success was not 100 per cent, but we think very commendable considering the newness of the work to some, and because physicians as a body are usually very busy. The Certified Auditor of Public Accounts, under direction of the Secretary of your Board of Trustrees, presented his report which I herewith submit for your consideration. Respectfully submitted,

Joseph M. Aikin, Secretary-Treasurer.

Dr. Potter moved and Dr. Nielsen seconded that it be adopted and placed on file. Carried.

2. The audit of the books of Secretary-Treasurer Aikin was read as follows:

General Fund.

RECEIPTS

Dr. Mansfelde—Ex-Treasurer	$1,087.11	
Balance—Librarian Fund	14.15	
Advertisement (Lincoln Hotel)	25.00	
Dues	4,540.00	
		$5,666.26

DISBURSEMENTS

Defense Fund	$1,135.00	
Journal Fund	1,524.65	
Salaries	350.00	
Traveling Expenses	259.37	
Rent — Office	189.65	
Office Expenses	404.74	
Office Chairs	23.30	
Incorporation Fee	3.00	
Attorney Fee	100.00	
Reporter — Convention	100.00	
Audit — 1918 Books	33.25	
Chairman Campaign Committee	100.00	
		4,222.96
Balance on hand, Dec. 31, 1919		$1,443.30

Defense Fund.

RECEIPTS

From Dr. Mansfelde—Ex-Treas.	$1,670.36	
From Members	1,135.00	
		$2,805.36

DISBURSEMENTS

Check Book	$ 5.87	
A. J. Ames, Attorney	15.00	
Jas. C. Kinsler, Attorney King vs. Fitzsimmons	50.83	
Jas. C. Kinsler, Attorney Shulda vs. Thompson	125.00	
A. S. v Mansfelde	25.00	
H. A. Bryant, Attorney	350.00	
		$ 571.70
Balance in Fund, Dec. 31, 1919		$2,233.66

Journal Fund.

RECEIPTS

Balance, January 1, 1919	$1,021.28	
Collections — 1919	4,811.49	
		$5,832.77

DISBURSEMENTS

Salaries	$1,738.00	
Rent	17.75	
Journal Committee Dinner	6.55	
American Medical Assn. Journal	5.00	
Exchange on Checks	.40	
Publication Expense	3,030.22	
		$4,797.92
Balance on Hand, Dec. 31, 1919		$1,034.85
		$5,832.77

Dr. Cook moved, seconded by Dr. Fouts, that report be adopted and placed on file. Carried.

Dr. Fouts made a motion, seconded by Dr. Potter, that Secretary Aikin be instructed to pay office rent, telephone, stationery and regular office expense out of the General Fund. That the printing of the Journal, salary of the Managing Editor and of the stenographer be paid out of the Journal Fund. Carried.

3. Report of the Defense Committee read:

The Committee on Medico-Legal Defense submits the following report of its work for the year ending December 31st, 1919:

During the past year four new cases have been called to the attention of your Committee.

Only two of these cases which were pending from last year have been tried during the period covered by this report. In the first case several attempts were made by the plaintiff to effect a settlement, the Doctor being rather inclined to submit to this black-mail, but finally, relying upon the advice of the attorney, refused to pay one cent. On the day of the trial the plaintiff, through his attorney, came into court and dismissed the case. The second trial resulted in a complete exoneration of the defendant doctor. After consuming the greater part of two days in presenting their evidence, the Judge hearing the case, upon motion of the attorneys for the doctor, threw the case out of court.

At this time we are left with eight cases pending for the attention of the Committee. One of these cases, which will no doubt be heard in the month of January, is now in the Supreme Court, involves a question of interest to the whole medical profession, namely, the status of the confidential relationship between patient and physician, and to what extent the same must be maintained. The Association will be advised of the holding of the Court.

We hope to have the majority of the pending cases disposed of within the next year.

Respectfully submitted,
J. S. Welch, Associate
Joseph M. Aikin, Secretary
A. S. v Mansfelde, Chairman."

Dr. Fouts moved and Dr. Potter seconded that it be adopted and placed on file. Carried.

4. Report of Librarian read:

We have received two hundred and twenty-six periodicals, very largely Journals of the various State Medical Societies, also seventeen books for review, most of which have been properly reviewed. We have had very few requests for bibliographic work and deplore the lack of interest on the part of the members in this library.

We have at our command a very good fund of medical information, the services of an expert librarian, and hope that members will realize this and take more advantage of the same.

We have paid to Miss Wilson $7.00 for the work she did throughout the year. This is the estimate of our expenses.

A list of periodicals and Journals received is appended to this letter. Yours respectfully,
W. P. Wherry, Librarian."

Dr. Fouts moved and Dr. Stewart seconded that it be adopted and placed on file. Carried.

5. Report of the Sub-committee on Public Policy and Legislation read:

The Sub-committee on Public Policy and Legislyation met at 7:00 p. m., Dec. 16, in the Grand Hotel, Chairman B. F. Bailey presiding. Present: H. J. Lehnhoff, R. B. Adams, J. M. Banister, Joseph M. Aikin. Invited for conference: President-elect H. W. Orr, E. W. Rowe, K. S. J. Hohlen, A. J. Brown.

The request by President Banister that President-elect Orr name our Committee on Public Policy and Legislation for 1920 in order that they may be prepared for their official duties January first was complied with. They are as follows: B. F. Bailey, Chairman, E. W. Rowe, J. M. Banister, H. W. Orr, Joseph M. Aikin. He named as the Sub-committee for active work in Lincoln: E. W. Rowe, Chairman, B. F. Bailey, H. E. Flansburg.

On motion made, duly seconded and carried:

1st.—It was deemed that the proper authority for initiating public health laws is the duly constituted Committee on Public Policy and Legislation, and

2nd.—That this Sub-committee request Dr. Fred R. Green, Secretary Council on Health and Public Instruction, American Medical Association, and a competent constitutional lawyer, selected by the Sub-committee, to a conference with them in framing suitable public health laws for Nebraska. The plan offered shall be submitted for amendments by the Council of the Nebraska State Medical Association when in special session. Then as endorsed by that body, it shall on invitation from the Constitutional Convention specifying the date and place, be presented by the Committee on Public Policy and Legislation to the assembled Constitutional Convention, with the request that said public health bill be incorporated in the organic law of the State; a mimeograph copy of said proposed public health bill to be given to each member of the Constitutional Convention for his personal use."

On January 7, 1920, the Sub-committee on Public Policy and Legislation, in conference with the Council of the Nebraska State Medical Association, met at the Commercial Club, Lincoln, Neb., at 11:00 a. m.

President H. W. Orr presided and gave a resume of existing health laws in Nebraska.

Minutes of Dec. 16, 1919, meeting read and adopted.

Present: Drs. B. F. Bailey, H. W. Orr, J. M. Banister, A. S. v Mansfelde, A. P. Overgaard, I. H. Dillon, Fred R Green, LeRoy Crummer, A. E. Cook, A. J. Stewart, F. Tornholm, R. W. Fouts, H. E. Flansburg, E. W. Rowe, Morris Nielsen, A. J. Brown, H. W. Wilson, R. B. Adams, A. R. Mitchell, K. S. J. Hohlen, H. J. Lehnhoff, J. M. Aikin and Attorney H. A. Bryant.

President Orr introduced Dr. Fred R. Green, who outlined the line of action for securing public health laws based wholly on educational tests. Concentrate responsibility on one department of public health in the organic law, with one head directing the education necessary to granting a license to practice. Do not place medical men on the Board of Education and Licensure.

12—Noon—Adjourned to lunch.

Reconvened at 1:00 p. m., Dr. Orr presiding. Informal discussion on address of Dr. Green by Drs. B. F. Bailey, J. M. Banister and I. H. Dillon. In concluding this discussion, Dr. LeRoy Crummer made the following motion: 'I move that the advisory committee recommend to the Sub-committee on Public Health of the Nebraska State Medical Association the adoption of the ideas of licensure as presented by Dr. Green with the suggestion that the plan be adopted by such means as seems best to said Committee on advice of their attorney.' Seconded by Dr. Morris Nielsen. Discussed by Drs. H. W. Wilson, A. S. v Mansfelde and E. W. Rowe. Vote called and carried unanimously.

Dr. Green continued his address of the morning session under two divisions: 1st. Modern Public Health—Federal, State or Municipal—is today conducted on plans inaugurated fifty years ago, namely, enacting health laws to be enforced by police control without governmental education of the people. 2nd. Teaching through a multitude of voluntary organizations, each having good features but not coordinated. These the World War dissipated till now the most important outstanding fact is governmental control and a decreasing number of voluntary organizations. He urged our support of Federal and State organizations predicated on higher educational standards. He advised a Department of Public Health, if possible incorporated in the new organic law. If not feasible then see that the organic law enacted does not prohibit its accomplishment by legislative enactments. At least see that the new organic law does not prevent the subsequent creation of a Public Health Department very simple in form, and concentrate the responsibility of a cabinet official on the head of the department. Do not advise an elective head to the department. Put it in the hands of the Governor to apoint an A-1 man and do not require him to name a medical man. Do not limit his selection to a resident of Nebraska. Get the man, whereever he resides.

Dr. B. F. Bailey asked for suggestions on forming a simple health bill. Shall the present Code Law be left as a Legislative Act, or shall we ask to have it become a part of the new Constitution? He asked all to raise their hand who desire a constitutional Department of Health. All said no. He asked how many think that Section 26, Article 5 in present constitution of Nebraska should be deleted. This was discussed by Drs. M. Nielsen, R. W. Fouts and B. F. Bailey. Attorney H. A. Bryant suggested separation of Department of Public Health from Department of Public Welfare Board, then the Legislative acting as needed can take care of conditions as they appear. Dr. R. W. Fouts offered the following motion: 'That the sense of this meeting be that the Public Welfare and Legislative Committee use their efforts before the Constitutional Convention to strike out said section from constitution, and cause to be created a Department of Public Health if possible.' Seconded by Dr. A. S. v Mansfelde, and on vote unanimously endorsed.

Dr. E. W. Rowe asked: "Shall we decide now for definite wording to the Governor and his Committee at 3:30 p. m. or wait a few days?" Attorney Bryant advised "Defer to later date what we wish. Let Dr. Green present our desire to the Governor and give the Committee time to properly digest and formulate our views." Legislative acts from time to time may seem advisable as new conditions arise.

Adjourn to Governor's office at 3:30, where Governor McKelvie and Secretary Antles gave audience while Dr. Green presented the subject of public health laws predicated on the Illinois public health laws. Drs. Bailey and Green were the only speakers for our Committee. At 5:00 p. m. we had a hearing before a Committee from the Constitutional Convention where Dr. Bailey presented Dr. Green, who briefly pictured our past mistaken efforts in seeking laws to protect the public. We now insist that the public should ask Legislation for their protection, and the Doctors act only when solicited for advice in formulating such laws, then work in accomplishing their fulfillment.

Benj. F. Bailey, Chairman.
Joseph M. Aikin, Secretary.

Dr. Fouts moved and Dr. Nielsen seconded that the Council endorse the action by the sub-committee on Public Policy and Legislation in their activities before the Constitutional Convention. Carried.

Dr. Nielsen moved and Dr. Cook seconded that the Council extend a vote of thanks to Dr. F. R. Green of Chicago for the advice and suggestions given us at this session. Carried.

Summary of Councilor's Report Year 1919.

Dist.	Members	Physicians in District	Deaths	Expense
1	296	409	1	$3.96
2	118	254	2	
3	87	115	0	5.98
4	38	64	0	13.07
5	91	113	1	5.08
6	81	106	3	.50
7	76	109	2	5.95
8	None Received	......	--	
9	None Received	......	--	
10	54	55	1	

11	None Received	......	..	
12	35	34	0	40.60

An informal discussion of the affairs of the Association was had, and the advisability of recommending that the annual meeting be changed to meet in the fall of the year considered.

The several actions taken herewith is respectfully submitted to the House of Delegates.

Board of Councilors,
H. J. Lehnhoff, Chairman.
A. P. Overgaard, Secretary.

GENERAL NOTES.

Physicians interested in obtaining a special degree in opthalmology will do well to note that the American Board of Ophthalmic Examinations will hold its next meeting in New Orleans, Monday, April 26. Candidates who wish to obtain the certificate of the board must have their necessary credentials in the hands of the Secretary at least sixty days before the examination. The secretary is Dr. W. H. Wilder, 25 East Washington street, Chicago. Further particulars can be obtained from him.

Dr. Katherine L. Storm of Philadelphia, announces the removal of her offices from 1541 to 1701 Diamond street. The new building which Dr. Storm has purchased, has treble the capacity of her present building, and is being equipped with every facility for quick and exact work.

Motion pictures showing the surgical uses of Dichloramine-T will be displayed at the April A. M. A. meeting at New Orleans, by The Abbott Laboratories, of Chicago. All physicians attending this meeting are cordially invited to see these and other interesting pictures of recent medical and surgical procedures.

On March 25, 1920, the Department of Labor and Industry will hold its Tenth Conference of Industrial Physicians and Surgeons in the state capitol at Harrisburg, Pa. This conference promises to be of unusual interest as it will be the final day of a four-day Safety Congress held by this department in which speakers of international prominence will participate.

STATE NOTES.

Dr. A. D. Nesbit and family have been spending the winter in Pennsylvania visiting relatives and in Florida.

Dr. A. L. Berggren of Verdigre has located at Beverly, Kansas.

Dr. J. R. Newman of Indianapolis has located at Verdigre.

Dr. Wm. H. Pearson of Hastings was recently operated on for appendicitis.

Dr. J. O. Hoffman of Orleans has sold his office and residence to Dr. W. G. Rundle of the same place and will do post graduate work in eastern hospitals.

Dr. C. F. Applegate of Mount Pleasant, Ia., has been made head of the state hospital at Norwalk, Los Angeles, Calif.

Plans are being made in Omaha for a municipal hospital to take the place of the county hospital.

Dr. and Mrs. Charles R. Gannaway, formerly of Stuart, Neb., have disposed of their hospital and engaged in the Near East relief work. The doctor was a member of our State Medical Association.

Dr. and Mrs. W. M. Davis of Omaha have returned from a southern trip.

Dr. R. E. Kriz of Weston, Neb., is seeking a location. He was a recent caller at the Journal office.

Dr. R. C. Person of Omaha, whose practice is limited to the eye, ear, nose and throat, has opened offices in the Brandeis Theatre Building.

Dr. A. E. Gadbois, Norfolk, has returned from eastern clinics where he spent six weeks in eye, ear, nose and throat work.

Dr. A. N. Howley and wife, Norfolk, have returned from a trip to the Pacific coast.

Dr. L. M. Shaw of Osceola, Neb., secretary of Polk County Medical Society, called at the Journal office late in February, and paid the dues of the members of that county.

Dr. F. L. Beck, formerly of Geneva, Neb., has moved to Cheyenne, Wyo.

Dr. Clyde Moore has recovered from his recent illness.

The long drawn out case of Simonson against Dr. S. A. Swenson of Oakland for damages for disclosing to the landlady his belief that his patient had a contagious disease, was decided by the Supreme Court in favor of Dr. Swenson.

Dr. B. L. Davis was operated on for appendicitis at his home in Scribner in February.

Dr. J. H. Morrow of Merna is a candidate for representative.

The Fraternity Hospital under the management of Drs. Lukens and Johnson has been opened at Tekamah, in a new building.

Dr. A. E. Westervelt has moved from Craig to Omaha.

Dr. C. C. Green of Beaver City has returned from a vacation spent in Arizona.

The Taylor E. Lewis Memorial Hospital of Superior has outgrown its accommodations, and ways and means are being sought to increase its capacity.

Dr. E. J. Mitchell has moved from Dunning to Scottsbluff.

One hundred thousand dollars in bonds was voted last spring in Lincoln for a City Hospital, the authorization being contingent upon the citizens subscribing a like amount. A campaign put on by the Lincoln Commercial club early in March realized the requisite amount, and the hospital is to be built this summer.

Dr. H. W. Orr is now editor of the International Journal of Orthopedics.

The Long Pine Community Hospital was formally opened February 17. This hospital owes its origin to the Long Pine Commercial club which body financed and equipped it. Dr. Albert G. Rasck formerly of Chicago will have charge.

Dr. W. R. Waggener of Silver Creek, has been succeeded by Dr. R. D. Balcom of Clarks. The residence and office equipment of Dr. Waggener was purchased by Dr. Balcom.

Dr. J. I. McGirr, Beatrice, has a partner in the eye, ear, nose and throat business: Dr. C. G. Baird of Cedar Rapids, Iowa.

The urgent need of adequate hospital facilities for western Nebraska has spurred the citizens of Sidney and tributary territory to organize a non-sectarian hospital association. A new hospital adequate to the needs is to be built this coming summer.

Dr. C. D. Evans and his two sons and interests connected with them are about to build a fifty bed hospital in Columbus.

The Sacred Heart Hospital at Lynch has been opened. Dr. Clement Martin has been named chief surgeon.

Dr. Hugh S. Cumings of Hampton, Va., has become Surgeon General of the Public Health service, succeeding Dr. Rupert Blue whose term expired.

Charles Young of Tilden was discovered to have leprosy. After much maneuvering by the different authorities with whom he came in official contact, the county commissioners of Madison county built and comfortably furnished a little house for him on the County Farm at Battle Creek where he is now.

Dr. John F. Smith of Chicago is a recent addition to the medical faculty of West Point.

Dr. E. W. Fetter has become city physician of North Platte, vice Dr. J. S. Simms resigned.

Dr. C. A. Cumings of Lyons has become examiner for Public Health Service for Burt county.

Dr. A. M. Peterson formerly of Dannebrog has located at Elk Horn, Iowa.

Dr. Edward M. Thies of Iowa has located at Hartington for the practice of medicine.

A firm of physicians in north Nebraska has boosted prices for professional services in the following manner: "The only thing in the world that has not increased in price since the war began is our professional services. Everything else has at least doubled. In the future the following prices will prevail: Village calls, $3.00, country calls $3.00 plus $1.00 per mile one way."

Dr. Glen Miller, class 1919, College of Medicine, University of Nebraska, was a recent caller in the Journal office.

Dr. W. L. Donnelly, class 1919, Iowa State University, has accepted the duties of House Physician in the Douglas County Hospital.

Mr. E. W. Mattson of Chicago, manager of the Cooperative Medical Advertising Bureau of the American Medical Association, was a recent caller in the Journal office.

SOCIETY NOTES.

At the annual meeting of the Richardson County Medical Society the following officers were elected for 1920: Dr. G. W. Reneker, Falls City, president; Dr. J. C. Gillispie, Falls City, vice president, and Dr. H. D. Burchard, Falls City, secretary-treasurer.

Nebraska-Iowa Pediatric Society met Thursday evening, February 19, at the University club. After dinner the paper of the evening was delivered by Dr. H. M. McClanahan on Diagnosis of Contagious Diseases. The doctor gave a very lucid description of the differential points in the diagnosis of the various exanthematous diseases. The paper was discussed by Dr. W. O. Bridges and Dr. Edwards, health commissioner, and other members of the meeting. The meeting was well attended. The next meeting will be March 18. Paper of the evening will be delivered by Dr. H. B. Hamilton on Treatment of Contagious Diseases.

The Omaha Roentgen Society was entertained in Lincoln Saturday evening, February 7, by Dr. E. W. Rowe and Dr. R. L. Smith. After a dinner at the Lincoln hotel a program was given in the offices of Dr. Rowe and Dr. Smith. The program consisted of a discussion of many interesting problems in roentgen diagnosis and treatment, illustrated by case records taken from the files in the laboratory.

DEATHS.

Dr. Carl A. Meyer, secretary-treasurer of the Madison County Medical Society died at Newman Grove, February 13, of influenza-pneumonia. Dr. Meyer returned from overseas service late in the fall of 1919, and was married December 18 to Miss Myrtle Fisher of Norfolk.

Dr. John Walton Ross, noted yellow fever specialist who aided General Gorgas in conquering the yellow fever in Panama, died at his home at Lamanda Park, Calif., on February 10.

Dr. Russell Ross Marble of Hastings, Neb., aged 48, died at Lincoln on January 16 from pneumonia complicating diabetes.

Dr. Paul E. Rasmussen of Omaha, aged 30, a resident of Omaha for fifteen years, died at a local hospital on February 9.

Dr. Frederick Swartzlander, Omaha, aged 72, veteran of the Civil War, and practicing physician until two years ago, died at his home February 22.

Dr. A. A. Johnson of Omaha received a cable confirming previous reports that his brother, Frank Johnson, Y. M. C. A. worker, had been killed by Turkish brigands near Aleppo, Syria.

Dr. Elmer Ernest Southard of Boston, Mass., aged 44, died in New York on February 8 after a two days illness with pneumonia.

Dr. E. R. Seasongood of Naper, Neb., aged 34, died February 29 of pneumonia.

Dr. Hugo William Wightman of Scottsbluff, Neb., aged 47, died March 10 at Omaha from the effects of sleeping sickness which followed an attack of influenza.

Dr. J. A. Rutledge, superintendent of the Woodmen Sanitorium at Colorado Springs, died in San Francisco on the second of February of influenza and complications.

BOOK REVIEW.

Syphilis: Henry H. Hazen, A. B., M. D. C. V. Mosby Co., St. Louis, 1919. 647 pages.

The book deals with the history, etiology, pathology, clinical course and manifestations in the various parts of the body, diagnosis, prognosis, prophylaxis and treatment. The chapters on etiology and pathology are accurate and reliable. The discussion of the clinical manifestations is quite complete and briefly stated. The discussions of prophylaxis and treatment are conservative, and the methods are generally accepted as good. Only a few minor typographical errors appear.

J. T. M.

A well qualified physician with several years experience would like to become associated with a surgeon or a busy general practitioner developing surgery where there is an opportunity to get experienc in major surgery. Am not afraid of work and anxious to learn. Address 8, care of this Journal.

THE NEBRASKA STATE MEDICAL JOURNAL

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NEXT ANNUAL SESSION OMAHA, MAY 24-26, 1920.

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Surgical Diagnosis — Appendicitis and Gall Bladder Disease.*

Arbor D. Munger, M. D., Lincoln.

Diagnosis is the determination and valuation of the phenomona of disease.

It is the analytic method of drawing conclusions from concrete facts correctly observed.

Success in treatment depends largely upon accurate diagnosis.

Each one of us should possess a diagnostic method which in the end will enable him to recognize with at least some degree of accuracy, a surgical lesion when it presents itself.

The present day attraction of modern surgery had led a great many practitioners into surgical work and the natural result has been probatory incision without due preparation or diagnosis. The scant danger which now attends "exploratory incision" seems to encourage a degree of mental contentment, an inhibition of the reasoning powers to the end that after a brief (very brief at times) and inconvincing effort at unravelling the mystery it is settled by "Let's do an exploratory operation."

We have all experienced that our powers of human reasoning in diagnostic attainment are apt to be developed in direct proportion to the ease of other means at hand for reaching a final conclusion in differential endeavor. The vigorous assaults made upon our reasoning efforts by the many newer, and in a great many respects novel expedients which we now possess for diagnostic work are lamentable.

It is not with the thought of disparaging the use of our newer diagnostic helps that the essayist presents this paper, rather I would plead for their more rational use in conjunction with a more careful differential physical diagnosis.

Methods of reasoning to arrive at a definite end differ widely. However, one of but two extremes usually presents itself — the method popularly known as snap diagnosis or the more laborious and time consuming procedure of logically weighing all the facts and findings presented in an honest effort to arrive at the diagnosis by exclusion.

It is a fact, although lamentable, that a vast majority of medical men throughout the country today in making a diagnosis take only a fragmentary, incomplete or wholly irrelevant history, make a hasty or inadequate physical examination, make rare use of the clinical laboratory, and finally consider the most obvious or frequently observed diagnostic possibilities.

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*Read before the Lancaster County Medical Society, Lincoln, Jan. 3, 1920.

With this in mind, I addressed letters to ten of the leading surgeons of the country with specific intent to ascertain their procedure in gathering data and method of deduction.

The following sequence is the average procedure:

1. A careful clinical history.
2. A complete physical examination.
3. Clinical laboratory findings.
4. Special methods of diagnosis.
5. Logical reasoning from data gathered.

Some men preferred to make their deductions before resorting to special methods of diagnosis, while others were not so inclined.

To arrive at a conclusion on a clinical history and physical examination alone without calling to aid the newer methods of diagnosis is a retrograde procedure. (1).

Foss (2) of the Mayo Clinic who studied 1170 patients, presents a most illuminating paper. In about half of these patients who came to operation there was a gross error of 10% in the primary diagnosis. In all of these the surgical indications were correct and the operation was justified, but the clinical diagnosis was wrong. In 75% of these the lesions were associated with either the duodenum, gall bladder or appendix. The list of known errors would have been much smaller, had not an ample rectus incision been made which permitted adequate exploration of the entire abdomen.

Foss states that an operation wherein the entire abdomen is not explored leaves the surgeon in but slightly better position than the gastro-enterologist "who cures gastric and duodenal ulcers, and is only kept from knowing that he hasn't by the thickness of the abdominal wall."

The striking similarity in the symptoms of chronic appendicitis and of duodenal ulcers commands attention. Several instances are noted in which a 90% diagnosis of duodenal ulcer was made because of a clear so-called text book history, in which at operation the patients were relieved by the removal of their appendices. In 27% of gastric ulcer cases the primary diagnosis was duodenal ulcer. In 14 cases of duodenal ulcer there was an error in the primary diagnosis of 36%. In short, it appears that we are sorely in need of more accurate methods of procedure in surgical diagnosis, especially in conditions of the upper abdomen. The clinical history stands first in value, but this is frequently unreliable. The X-rays have proved of enormous value. Fluoroscopic examination combined with serial plate investigation has increased efficiency of preoperative diagnosis to an 80% accuracy in duodenal, 90% in gastric ulcer and 95% for gastric cancer.

The most common errors in abdominal diagnosis are made in connection with lesions of the gall bladder, duodenum and appendix, next are the mistakes made in the preoperative diagnosis of lesions of the genito-urinary system. Foss states "the large clinic does not exist in which, at some time or other, one of its surgeons has come down upon a perfectly apparent cystic gall bladder, or splenic tumor only to regret that he had not made a posterior incision through which to remove the hydronephrotic kidney brought to light."

The routine employment of the Wassermann reaction has shown that specific disease is more prevalent than was ordinarily supposed — 600 out of 4,000 general hospital patients gave a positive reaction. Moreover, the necessity for Wassermann tests on the spinal fluid was shown by the fact that but 18% of tabetics gave a positive Wassermann test. Nuzums figures were referred to in which 87% of 1,000 tabetics were subjected to laparotomy.

To increase the daily diagnostic efficiency and check up errors, it is customary at the Mayo clinic for one clinician to come in after all evidence has been collected and go over the case in consultation. Thus, in 3% of the patients the consultant was able to elicit highly important facts from the histories which had been overlooked; in over 3% valuable details in physical examination were likewise noted by the consultant; and finally 4.1% of the final diagnoses made by the examiner were checked up and corrected by the consultant. Hurried examination is avoided. Thus a patient with vague intra-abdominal symptoms requires at least one hour for his first examination. Working 8 hours a day Foss averages between 7 and 9 cases. He says "Let this number be increased to 12 or

14 and the diagnostic mistakes will immediately increase as a result of the necessitated haste."

As most dangerous Foss points out the omission to recognize the indications for some special type of examination. A serum test, a fluoroscopic examination, a pyelogram or a proctoscopy may be all that is necessary to clear up a hitherto obscure problem.

From the tenor of this article it would seem that in spite of all laboratory assistance, nevertheless the prime requisites for successful diagnosis are the same today as they were before the Crooke's tube, the microscope, or the guinea pig were known to medicine, and also the ancient statement is truer than ever, that incorrect diagnoses are oftener made as the result of carelessness than from lack of actual knowledge.

I have reviewed the literature in a feeble attempt to get together in at least some little measure some of the accepted diagnostic signs and procedures in two of the more common surgical conditions of the abdomen — appendicitis and gall bladder disease.

Acute Appendicitis.

The order of appearance of symptoms in a typical case is as follows:

1. Pain — colicky in character — diffuse or localized in right iliac region. If the appendix has perforated or drainage into the caecum established there is a material stoppage of pain.

2. Nausea and Vomiting—Reflex in the early stages. If it remains persistent, one must always be on the lookout for peritonitis.

3. Temperature—Brewer states it is not a constant factor nor a reliable guide, although ordinarily it ranges from 99.5 to 102 degrees. If it is above this beware of the infectious diseases—pneumonia, scarlet fever, etc.

Eisendrath states it is always present. This is probably due to the fact that in all acute abdominal conditions he relies wholly upon a rectal temperature. It would seem that the latter procedure would be more reliable.

4. Pulse — shows little change in the early stages. A rapid rise is indicative of an incipient peritonitis.

5. Blood count — An increase in the number of white cells with a rise in the polynuclear count is usually present.

Hewitt (3) after a careful investigation of a large number of cases finds that the high white count when associated with a rise in the polynuclear percentage is of great value. In fulminating or moribund cases or where there is a walled off abscess leucocytosis is frequently absent.

6. Local signs—a little marked rigidity and tenderness located in the right lower quadrant can be elicited by careful palpation of the entire abdomen. The maximum intensity is usually confined to a point midway between the umbilicus and the anterior superior spine of the ilium. If the reexamination of the patient at intervals of a few hours shows the rigidity and tenderness to have spread beyond the right iliac region to the right and left as well as upward, the development of peritonitis must be suspected.

During the time of most marked tenderness and rigidity, the first 24 or 36 hours as a rule, a tumor mass cannot be palpated. It is at a later period when an encapsulated abscess is present or the appendix is surrounded by adhesive omentum that one can palpate a tumor mass.

Certain modifying factors may alter the typical physical findings.

The appendix may be retrocaecal. Here the inflammatory symptoms are often most marked in the right ilio-costal space and simulate very closely a perinephritic inflammation or an intrarenal infection. Deep flank palpation directed toward the posterior caecal region will in these cases elicit the maximum tenderness.

The pelvic position of the appendix is of especial importance in children as tenderness is often absent at McBurney's point and only present over the pelvis. Rectal examination should never be omitted in children. Motley (4) reviews 404 cases of appendicitis in children. 37 or approximately 9% occurred in children 4 to 14 years of age.

The most constant symptom of acute appendicitis in children is leucocytosis. The average leucocyte count is 17,400 per cu. mm. with an average polynuclear count of 82%.

One sees a very significant frequency of perforative appendicitis following purgation. Of 19 cases in which the appendix had perforated when the patients were admitted to the hospital, 16 cases gave a positive history of having been freely purged.

Early symptoms in children are not as definite and clear cut as in adults.

The attack in children usually follows dietary indiscretion and the parents naturally attribute the abdominal pain and nausea to intestinal colic due to an overload of indigestible food. The violence of the symptoms is frequently not at all in proportion to the degree of appendiceal inflammation.

Another feature of appendicitis which is well to bear in mind is the possibility of occurrence of hematuria when the appendix lies in close relation to the ureter. The hemorrhage occurs either from extension of the inflammation from the appendix to the ureter, or from adhesions. (5).

In dealing with further stages of appendicitis, anyone of which may confront us, let us first mention perforation.

The immediate result of perforation depends upon whether or not there has been time and occasion for adhesions to form. If adhesions have formed the perforation results in an appendicular abscess—elicited by palpation.

The symptoms are usually:

1. Pain — short and severe with usually more or less shock attending.

2. Relief of symptoms.

3. The very rapid pulse suddenly drops to around 100.

4. The temperature not immediately altered.

5. The patient may feel so well that what has passed is history until

6. A sudden pain with feeling of something giving away puts the patient in bed with a severe clinical picture of general peritonitis. In these cases we have one important diagnostic expedient in hyperleucocytosis—a count of more than 20,000 is indicative of an abscess, conversely though an absence of leucocytosis is no proof that an abscess does not exist.

Chronic Appendicitis.

When one reviews the literature on this condition, the realization soon comes that there is no definite symptom complex and but few physical findings upon which to base a diagnosis.

The history is of prime importance. There is an impairment of general health, and usually the patient is neurasthenic. The functional symptoms range from obstinate constipation to a diarrhoea, usually nausea, the pain may be constant or may simulate that of a gastric or duodenal ulcer. I doubt not that the diagnostic indefiniteness of this condition is largely at fault for the taunt so frequently thrown at the medical profession, "a craze for appendectomy".

Volkovitch (6) in chronic appendicitis, finds the abdomen to be relaxed in the right iliac region, in addition the abdominal muscles of the right side seem to shrink and atrophy. The more pronounced this so-called muscle sign, the more severe the appendicular lesion. He does not state, however, whether this sign is positive in other lesions of the right side of the abdominal cavity, such as pelvic trouble, gall stones, etc.

He further states that the relaxed condition of the abdominal muscles in chronic appendicitis may lead to scoliosis on the left side, and asserts that a left sided scoliosis should always raise suspicion of possible chronic appendicitis.

Bishoff (7) makes use of colonic inflation to distinguish between adnexal inflammations and chronic appendicitis.

Aaron (8) describes as a diagnostic sign, pain over the epigastrium induced by pressure over the appendix in chronic appendicitis, and contends that the pain is due to a reflex pylorospasm.

One might go on to some length presenting diagnostic signs perhaps all of more or less value, but happily the X-ray intervenes with some degree of diagnostic positiveness.

Hertz (9) demonstrates satisfactorily that X-ray examination in these cases can furnish evidence which is sufficient to enable a definite diagnosis in the majority of cases.

While it is not within the province of this paper to present Roentgen diagnostic methods, yet I feel it will not be amiss to present an abstract of some of the essential diagnostic points of Hertz.

His interpretations are based on both (a) direct and (b) indirect evidence. The former concerns the examinations of the appendix and the latter is concerned with the effect of chronic appendicitis on the rest of the alimentary canal.

Direct Evidence.

1. The shadow of the appendix. Hertz claims that the appendix is much more frequently visible in normal individuals than has been generally supposed. It can be seen in at least 50% of cases, and is visible with equal frequency in chronic appendicitis, when its shape, size and any abnormal enlargement

can at once be recognized. Its position in relation to the caecum and terminal ileum and the position of the caecum is most important. There is no diagnostic significance in the absence of an obvious shadow.

2. Adhesions in the right iliac fossa. These can be recognized during a screen examination by deep palpation, and adhesions of any importance are not likely to be missed. Hertz also makes use of colonic inflation, and if the appendix is adherent to the pelvic walls or to a pelvic organ other than the bladder, it does not rise under these circumstances.

3. Tenderness of the appendix. Often the appendix escapes pressure when the ordinary palpation is practiced, but when palpated under the X-ray, tenderness may be elicited in a large number of cases.

4. Hertz recommends that a screen examination of the appendix precede the barium meal so that concretions or foreign bodies may be seen.

Indirect Evidence.

1. The stomach. Hypertonicity of the stomach may be associated with chronic appendicitis, though it is less frequently observed than in duodenal ulcer, and is rarely of the extreme degree seen in the latter condition. A spasmodic hour glass constriction of the stomach is not an unusual phenomenon, and, after gastric ulcer, chronic appendicitis is the most common cause of this spasm.

2. Ileal Stasis. Appendicitis is the most common cause of retention of bismuth in the end of the ileum, and produces stasis by giving rise to spasm or inhibition of the normal relaxation of the ileocaecal sphincter.

3. Caecal Stasis. Stasis in the caecum is frequently due to appendicitis, and some barium may remain in this portion of the bowel from 24 to 72 hours.

These findings by Hertz are fully corroborated by numerous other writers. If skepticism has existed regarding the value of X-ray examination in appendicular lesions, we must now admit that this method is of inestimable value, and significant results will follow its employment.

Affections of the Gall Bladder and Biliary Passages.

The diseases of the gall bladder in which we are most interested are cholecystitis and choledochitis—with or without calculi.

Cheney (10) from the detailed records of 1708 patients presents a most worthy paper. His paper presents not only the forms of gall bladder disease commonly met with, but the variations of each form likely to occur.

Chronic Cholecystitis.

He assumes that this condition through the existing infection and chronic inflammation of the mucous membrane invariably underlies the formation of gall stones.

Chronic cholecystitis may exist weeks, months or years before cholelithiasis presents itself. He argues that until gall stones manifest themselves by biliary colic, there is no justification for ever making a diagnosis of cholelithiasis, All symptoms that lead up to or precede the attack of pain are symptoms of chronic cholecystitis.

The symptoms of chronic cholecystitis are of two sorts:

1. Local—pointing to the gall bladder.
2. Reflex disturbances of digestion.

Either group of symptoms may predominate or there may be a mixture of both.

Characteristic of the local manifestations are (1) Pain—ranging from a soreness to a severe throbbing pain. Putting the right side on the stretch there is a sense of crowding under the right costal margin and there is inability to sleep on the right side with comfort. (2) Some increased tenderness and rigidity along the right costal margin. (3) Recurring more or less frequently is an acute exacerbation of the chronic condition with an attending rise of fever, usually some jaundice and nausea or vomiting. During such exacerbations the resemblance of chronic cholecystitis to cholelithiasis may be so striking that there is difficulty in deciding whether or not the latter condition has really developed as a sequel.

Reisman (11) concurs in the above and happily states that it is not wise in these cases to make a diagnosis of gall stones, but to avoid embarrassing explanations to the laity, make a diagnosis of gall bladder trouble. Does not this remind one of Conan Doyle's Dr. Winter, who carried gall stones in his pocket to meet this emergency?

In those cases wherein the gastric side of the cholecystitis' picture predominates there exists—a ravenous appetite and all food causes gas and belching, with distress and pain, relieved by getting rid of the gas. These symptoms exist for years with increasing severity and with constant soreness over the stomach and progressive loss of weight. Recurring acute exacerbations of the pain, with much gas and bloating, but the pain is not colicky and does not last for any great length of time. Soreness and tenderness manifest themselves over the right costal margin. Usually there is some fever and slight jaundice.

Examination of the gastric contents demonstrates the presence of hyperchlorhydria.

All of the cases diagnosed as chronic cholecystitis in the series of cases by Cheney showed the combination of pain and discomfort in the gall bladder region, with more or less disturbance of digestion. Thus he says "Errors in recognizing the real state of affairs arise on the one hand from considering only the stomach manifestations, or, on the other hand, from misinterpreting the gall bladder manifestations and calling all cases cholelithiasis. One other possible error lies in attributing both the local and reflex symptoms to appendix disease; but this is less probable than the opposite error of diagnosing cholecystitis when the real pathology is appendicitis." Cheney places great reliance on a careful history in these cases. He states that since most of these patients are obsessed with the idea of stomach trouble, the diagnostician must be on the alert or he will not obtain a complete story of the case.

Cheney apparently takes no cognizance of acute cholecystitis per se but considers all such conditions only as an acute exacerbation of a preexisting infection of the mucous membrane of the gall bladder.

The rationale of this conclusion I believe is open to question.

We have all seen those acutely fulminating cases of cholecystitis, coming out of a clear sky with no premonitory symptoms, producing all the signs of a severe septic infection with localized peritonitis.

The clinical picture of such a severe infection of the gall bladder does not differ essentially from that of a similar case in which calculi are present.

The most striking symptom is severe pain referred to a point corresponding to the outer portion of the right rectus muscle close to the right costal arch. The typical radiation of pain is toward the right shoulder, not infrequently though, it has been observed to radiate to the left shoulder and oft times the principle direction of radiation of pain has been directly backward toward the spine. The pain is usually accompanied by rise of temperature to 103 degrees or higher, by a marked leucocytosis, vomiting during the attack and a rise in the pulse rate. Tenderness is elicited by palpation along the right costal arch — a distinct ovoid, elastic swelling in some cases can be felt over the area of tenderness due to the tensely filled gall bladder, however, rigidity of the right upper quadrant in these cases usually masks such findings. Icterus is not a symptom of acute cholecystitis. It may be present in slight degree during the attack, but disappears rapidly as soon as the inflammatory symptoms subside.

Reisman (12) feels that this type of gall bladder disease is apt to occur in women of advanced years who have never had any gall bladder trouble before. Thus he says "As I have seen it the attack has always followed a gross indiscretion in diet and during the first day or two has resembled ptomaine poisoning. The symptoms are sudden epigastric pain with nausea and vomiting, prostration and moderate enlargement in the liver region and great tenderness on pressure can be made out. This enlargement is evidently the swollen gall bladder. A slight leucocytosis and congestion over the bases of the lungs complete the clinical picture. Jaundice has not occurred in my cases."

Cholelithiasis — The syndrome which has usually been thought to be pathognomonic of calculi in the common or hepatic ducts is jaundice, pain, acholic stools, chills and fever.

This syndrome is so typical that in over 80% of the cases the story is repeated. There is, I am convinced, however, a certain factor which must always be taken into account when this syndrome presents itself. Von Bunger points out that in 95% of cadavers examined the lower end of the common duct is found to be completely incorporated in the head of the pancreas. From this one can readily understand how either acute or chronic pancreatitis can cause obstruction to the common duct and favor the spread of infection within it. In the diagnosis of biliary colic there is certainly no more important element than a painstaking, detailed account of the patient's attacks. Physical examination is often surprisingly negative in comparison with the pathology ultimately found, the anatomic inaccessibility of the gall bladder to palpation argues for this.

Not infrequently the attack of colic comes on at night, although it may be ushered in at any time during the day, and usually located in the right hypochondrium, but may be most intense in the epigastrium or left hypochondrium. The pain usually radiates along the right costal margin, to the back, under the right shoulder blade, but may radiate instead directly through between the shoulder blades, upward into the chest or downward into the abdomen. Pain is not as prominent a symptom of infection, (with or without calculi) in the common duct as it is with the same condition in the gall bladder or cystic duct.

Jaundice is not at all a regular accompaniment, and its absence does not bar a diagnosis, and even when it occurs it may be slight, transitory or overlooked. The urine in such cases is usually characteristic. With calculus present and firmly impacted in the common duct the jaundice is intense, sudden in onset and persistent until the calculus is spontaneously released or removed at operation. Should the calculus be pocketed the picture presented is very apt to be that described by Charcot as intermittent. Acholic stools accompany the jaundice.

Chills and fever may or may not accompany the attack of pain, and when present are rather characteristic. They recur at irregular intervals followed by profuse perspiration, and differ from malarial chills by the irregularity of their recurrence, and the absence of the plasmodium in the blood.

Certain atypical cases are reported, in which calculi may be present in the hepatic or common ducts without giving rise to any symptoms whatsoever. (13).

I have made no reference in the course of this paper to roentgen-ray examination of the gall bladder, because it is only recently that improved technique has made it possible to obtain results in demonstrating the presence of gall stones. As nearly as I can ascertain about 50% of cases only will cast a gall stone shadow—so that it is undoubtedly in order to submit every suspected patient to an expert radiographer for his investigation.

How to avoid the element of diagnostic error in conditions giving rise to recurring abdominal pain is not altogether clear. Ordinarily we depend upon the site of pain and tenderness, the radiation of pain, its character and intensity, to distinguish one condition from the other. But as is shown by clinical histories, the picture is not always definite. Either appendicitis or gall bladder disease may manifest themselves by chills and fever, leucocytosis, jaundice or vomiting, and while appendicitis may have pain referred to the right costal margin and back, gall stone colic may exceptionally cause pain referred down into the right side of the abdomen.

Gastric and duodenal ulcer, gastric crises of tabes and renal colic are other conditions which must be distinguished from hepatic colic. The error relative to gastric ulcer is conceivable; but the characteristic history of chronic gastric ulcer, the findings on physical examination, stomach analysis, and roentgen examination should serve at least to exclude cholelithiasis even though other possibilities for error remain.

Examination of the reflexes, and Wassermann reaction with lumbar puncture in any dubious case should remove all doubt as to gastric crises. The symptoms and signs of renal colic as regards the urinary history, are so very different, and investigation is now so definite in its results by cystoscopy, ureteral catheterization, pyelography and roentgen-ray plates, that one can rarely fail to recognize the underlying kidney disease if the colic attacks are renal in origin.

A very interesting phase of gall bladder disease is presented by Babcock (14) in the last issue of the American Medical Journal. He points out that there is a direct relation existing between diseases of the gall bladder and the heart. In a certain number of patients who have suffered from gall bladder infection, often unknown to themselves, cardiac symptoms appear. These vary in character, from cases in which a systolic murmur is found to other cases in which evidently the myocardium is affected, to those in which attacks of pain are anginal in character. The importance of this phase of the subject is that one may consider the case one of hopeless heart affection and overlook the causative factor. The cases operated upon manifest a marked improvement of the heart condition.

A cardiac disturbance or a heart murmur are no contra-indication to operation where there is co-existing gall bladder disease. Rather, it is to be looked upon, unless too far advanced or due to an independent cause, as a distinct indication for operation.

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The Diagnosis of Prostatic Hypertrophy.*

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Consideration of the common mistakes incurred in the diagnosis of prostatic hypertrophy should include a discussion of two general groups; one in which a true glandular hypertrophy is overlooked, usually on account of a negative rectal examination, and the other in which urinary stasis due to some other cause is ascribed to prostatic hypertrophy. Under either condition the patient is usually an individual at the prostatic age, with a residual urine, together with symptoms of chronic urinary obstruction, but without characteristic findings per rectum sufficient to justify an unqualified diagnosis of benign prostatic hypertrophy. In general, the symptoms of which such patients complain are, frequency of urination, nycturia, dysuria, hesitancy and perhaps complete retention or overflow incontinence. For a differentiation of these border-line cases, careful, systematic urological and general physical examinations are necessary. The typical case of uncomplicated, benign prostatic hypertrophy, giving a characteristic history of chronic urinary obstruction, and presenting per rectum an enlarged, bilaterally symmetrical, elastic, unindurated prostate, needs no discussion as to differential diagnosis. In this type of case there can be no question. And were all cases so simply diagnosed, any discussion as to possible error would be superfluous. Given, however, the same individual, presenting the same train of symptoms indicating chronic urinary stasis, but without typical hypertrophy per rectum and difficulty in diagnosis at once arises. Under these conditions there are several possibilities of diagnosis, the more common of which may be enumerated as follows:

1. Carcinoma of the Prostate.
2. Urethral Stricture.
3. Intravesical benign prostatic hypertrophy.
4. Vesical calculus.
5. Vesical tumor.
6. Vesical diverticulum.
7. Prostatic cyst.
8. Lesion of the central nervous system.
9. Median bar formation or contracture of the vesical orifice.

The main points of interest may be best discussed by considering each possible diagnosis separately and briefly.

Carcinoma of the Prostate.

The outstanding fact concerning carcinoma of the prostate is its surprising relative frequency as compared with benign hypertrophy. Twenty percent of all enlargements of the prostate presenting symptoms are either carcinoma alone, or coexistent carcinoma and hypertrophy, the two often being confined to separate portions of the gland. In other words, one out of every five prostatic enlargements is carcinomatous. Very early carcinoma of the prostate is seldom diagnosed, because the indication for rectal examination does not arise unless there is an accompanying hypertrophy. But even far-advanced carcinoma often goes unrecognized, in spite of the ease with which it may be diagnosed. Occurring primarily, as it always does, in the posterior capsule or lamella of the gland, which lies directly under the examining finger, the only requirement for a simple, accurate diagnosis is rectal examination. The typical "stony" hardness of carcinoma is unmistakable. Any nodule or localized area of induration in the posterior capsule of the prostate of a patient past middle age should be viewed with suspicion. The occurrence of carcinoma in the posterior capsule, where hypertrophy is not seen, and the frequently observed coexistence of the two processes, entirely separated by a fibrous septum, goes to prove that carcinoma does not result from malignant degeneration of a previously existing benign hypertrophy. This posterior capsule, or "carcinoma-bearing" portion of the prostate, cannot be removed by the suprapubic operation. By the perineal route, however, where the posterior surface of the prostate is exposed by the method of Young, a careful visual and digital examination of this area may be made, and any suspicious nodule or indurated area excised. In the ordinary perineal prostatectomy of this type, where no carcinoma exists, it is customary to enucleate the hypertrophied lateral and median lobes through incisions made in the posterior capsule, no attempt being made to remove this latter structure because it is never involved in hypertrophy. Where small excisable carcinomata exist, however, it is possible to remove the prostate in toto, including any portion or all of the posterior capsule, together with seminal vesicles, ejaculatory ducts, internal vesical sphincter and even a portion of the trigone. Young has successfully performed this extensive operation, and has obtained cures of several years standing with complete continence and normal urinary control, in spite of the loss of the internal sphincter.

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In connection with the perineal operation for cancer of the prostate should be mentioned the partial or incomplete operation for extensive, far-advanced cases, in which no attempt at radical excision is made. Here only a sufficient portion of the hypertrophied and carcinomatous tissue is removed to relieve the existing obstruction. It is a well known fact that carcinoma of the prostate grows very slowly. After operation these patients have normal urinary control and may live for a period of two to three years or more, without symptoms, without knowledge of the carcinoma, and finally dying of some remote cause.

The points to be emphasized with respect to cancer of the prostate are (1) its frequency, (2) the importance of early careful rectal examination, (3) the possibility of complete excision by the perineal route where early diagnosis is made, and (4) the possibility, even in advanced cases, of relieving urinary obstruction by a palliative incomplete operation.

Urethral Stricture.

Following rectal examination, the next step in the diagnosis of the cause of urinary obstruction should be the passage of a catheter, under strict aseptic precautions. The results accomplished are twofold. The amount of residual urine is determined and stricture may be excluded. The mere fact that the patient has reached the prostatic age, and has only recently presented symptoms, by no means rules out stricture. I recall two patients seen during the past three months, aged 55 and 70 years respectively; both referred for prostatectomy, both having had symptoms of obstruction develop comparatively recently, after a free interval of 20 or 30 years following Neisser infections, and both with stricture, cured by dilatation. No diagnosis of prostatic hypertrophy, therefore, is complete without urethral instrumentation.

Intravesical Benign Prostatic Hypertrophy.

Second in importance only to rectal examination in the diagnosis of prostatic hypertrophy, is cystoscopy. Excepting where distinctly contraindicated, this procedure should be made a routine, in order that the operator be forewarned of existing vesical complications, and thus be able to make adequate preparation before operation for emergencies that may arise. Supposing that the patient is a man at the prostatic age, with a catheter-demonstrated residual urine, but without positive findings per rectum, the next logical procedure is cystoscopy. The demonstration by this means of intravesical hypertrophy, where none exists per rectum, is common. The usual structures involved in intravesical prostatic hypertrophy are the two lateral lobes and the median lobe, either singly or in various combinations; and there are also to be considered the Albarran glands, lying just within the sphincter, and the subtrigonal glands. Hypertrophy of any one of these glandular structures may cause extreme dysuria, although the rectal examination may be completely negative. The determination by cystoscopy of the existence of intravesical lobes is not a matter of guesswork. One accustomed to the use of the cystoscope may examine the prostatic orifice and graphically record on a special chart the various views obtained as the cystoscope is rotated through an angle of 360 degrees. This graphic recording may be done with a degree of accuracy which permits of correct interpretation without written record. Pos-

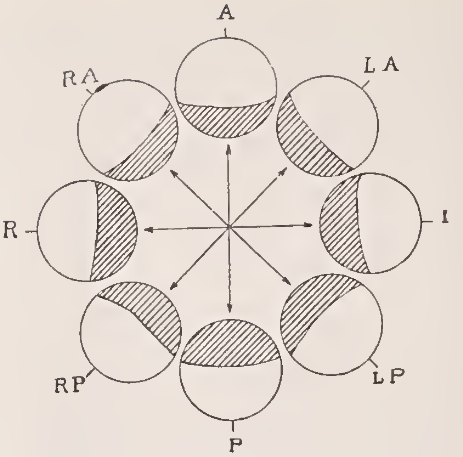

Fig. 1. Chart of normal prostatic orifice. The eight circles show the eight successive views obtained as the cystoscope is rotated through 360 degrees. Each circle records a change in angle of view of 45 degrees. (Young).

sible errors, due to magnification and to varying relative positions of lens and object viewed, are overcome by practice. Considering the normal prostatic orifice, each successive view obtained as the cystoscope is rotated through 360 degrees is the same, half the field being occupied by the prostatic margin and the other half by the illuminated bladder wall beyond. In the case of intravesical hypertrophy, however, each lobe presents an elevated convex margin as the cystoscope is rotated through successive fields; but of still more importance are the clefts or sulci visible between two lobes. See figures 1, 2 and 3. The point to be emphasized is that with the cystoscope it is possible to determine accurately the nature and extent of intravesical glandular hypertrophy.

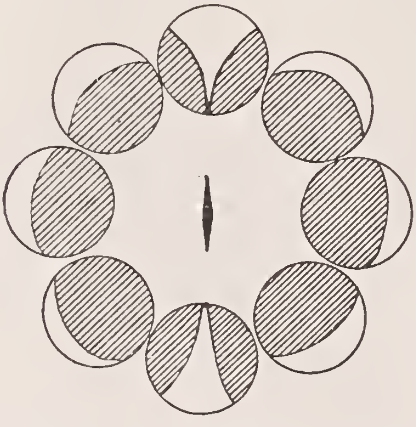

Fig. 2. Chart recording intravesical hypertrophy of two lateral lobes. Note the two clefts of sulsi, seen anteriorly and posteriorly, and the lateral fullness on either side. (Young).

Vesical Calculus.

The possibility of the presence of vesical calculi in patients presenting symptoms resembling those of urinary stasis, with or without evident prostatic hypertrophy, further emphasizes the advantage of cystoscopy. It should be borne in mind that calculus formation is usually secondary to some form of urinary obstruction, and that the primary underlying etiological factor should, therefore, be searched for. A discussion of vesical calculi is here out of place, the subject being merely mentioned as a possible source of confusion in diagnosis.

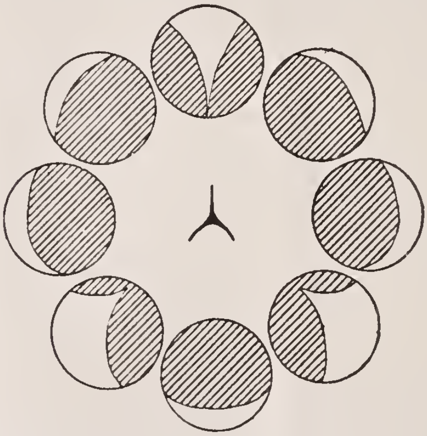

Fig. 3. Chart recording intravesical hypertrophy of two lateral lobes and a median lobe. There is a cleft visible anteriorly and one in either postero-lateral quadrant, where the median lobe begins. (Young).

Vesical Tumor.

Vesical tumor not infrequently produces symptoms resembling those of prostatic obstruction and, when situated near the vesical orifice, may also be the cause of residual urine. Here again the cystoscope is the only means of accurate diagnosis.

Prostatic Cysts.

Prostatic cysts located at the vesical orifice may be the cause of mechanical obstruction. They are apt to occur in relatively young men. Cystoscopically, the cyst resembles an intravesical prostatic lobe, but may be distinguished by its translucent appearance, by its clearly visible, superficial blood vessels, and by its mobility and compressibility. Prostatic cysts may be destroyed without operation, either by fulguration or with the rongeur cystoscope.

Diverticula.

Concerning vesical diverticula it is to be remembered that they present no distinctive symptomatology, and may be diagnosed only by the cystoscope or cystogram. The symptoms are usually obstructive in character and there is usually a residual urine, due either to the content of the diverticulum itself or to an associated obstruction at the vesical orifice. The importance of distinguishing between this condition and prostatic obstruction is, therefore, clear. Frequently the two are associated, and under these conditions Judd advises simultaneous diverticulectomy and prostatectomy, since he considers that mere removal of a prostatic obstruction will not relieve the symptoms caused by the diverticulum. Since diverticulectomy is usually rather an extensive operation, it is to the advantage of the operator to be forewarned of this condition by a previous cystoscopy.

Lesions of the Central Nervous System.

It is with surprising frequency that patients with early tabes or cerebrospinal lues present themselves to the urologist with the solitary symptom of urinary difficulty. Sometimes a hint as to the diagnosis may be obtained from a history of lues in past years, supposedly cured; and sometimes a lack of tonicity or a relaxation of the anal sphincter, detected by rectal examination, may aid in diagnosis. A complete, general physical examination, disclosing perhaps lost reflexes or an Argyll-Robertson pupil or other signs of tabes, may arouse suspicion as to the diagnosis in this type of bladder lesion. The cystoscopic findings, however, are all-important. There is often complete anaesthesia, the patient displaying a surprising indifference to the introduction of the cystoscope and to subsequent manipulation. The bladder may be distended, the patient then having incontinence of the paradoxical or overflow type; or there may be true incontinence. Trabeculation of the bladder wall is usually present, as a result either of a trophic nerve disturbance, causing atrophy of certain muscle bundles which renders others relatively prominent, or as a result of hypertrophy limited to certain bundles. The most important feature, however, is the condition of the sphincters, the internal sphincter being often widely dilated, and the external sphincter spastic, so that the catheter obtains urine from the prostatic urethra. In typical cases this dilatation of the internal sphincter is so marked that the cystoscope may be withdrawn into the posterior urethra and the verumontanum and even the utricle and the orifices of the ejaculatory ducts plainly viewed. Caulk has shown that this dilatation may be demonstrated in 80% of tabetics. Dilatation of the internal sphincter may be made further evident by a cystogram, the posterior urethra then being visible as a funnel-shaped downward prolongation of the bladder. Cystoscopic diagnosis of a spinal cord lesion may then be confirmed by a blood Wassermann test and spinal puncture. It is not necessary to point out that an accurate diagnosis in this type of lesion may prevent prostatectomy in cases where the gland is not responsible for the symptoms and where the operative result may be complete permanent incontinence. With "spinal bladders" remarkable results may be achieved by intensive antiluetic treatment, together with interval catheterization and dilatations of the posterior urethra. An opportunity is thus given for the stretched bladder musculature to regain its tone. The fact must not be overlooked that these tabetic bladders, with large amounts of residual urine, are subjected to the same danger of impairment of renal function from long continued back pressure as are prostatics with true mechanical obstruction. A residual urine over a long period of time from any cause whatever is always a menace.

Contracture of the Vesical Orifice or Median Bar Formation.

Last, but of great importance, comes that type of case which may be grouped under the general heading "contracture of the vesical orifice or median bar formation;" the diagnosis of which is arrived at mainly by exclusion of other possible causes of obstruction. This is the case with dysuria and residual urine, where rectal examination reveals a normal-sized or a fibrous, atrophic prostate, and where cystoscopy reveals no intravesical hypertrophy and no stone, tumor, diverticulum or other easily apparent cause for symptoms. It may, therefore, be said that this diagnosis is arrived at by exclusion of other causes. Careful study of the prostatic orifice may show a so-called posterior median bar, evident as a slight, rounded convexity or elevation at the prostatic margin, and partially obscuring the trigone. A fibrous thickening in this region may also be detected by recto-urethral palpation, that is by estimating the thickness and the consistency of the tissues at the posterior prostatic margin between the finger in the rectum and the shaft of the cystoscope in the urethra. To perform prostatectomy for such a condition is to submit the patient to a major operation which not only is unnecessarily radical but which may not relieve symptoms. Furthermore, these patients are often young men. On the other hand, to conclude from rectal examination that the prostate is normal, that the patient needs no treatment, and to permit him to continue with a residual urine, is an equally serious error. Various forms of intraurethral excision have been devised, of which the Young punch operation gives the most satisfactory results. This may be done under local anaesthesia and confines the patient to bed for only two or three days, giving a large percentage of splendid functional results.

Summary.

There are several not uncommon conditions which may cause residual urine and symptoms of urinary stasis similar to those caused by benign prostatic hypertrophy, and which may be differentiated before operation by careful, general and urological examination. To enumerate, these are:

1. Carcinoma of the prostate. Diagnosed by rectal examination. The perineal route of approach is here of advantage.
2. Urethral stricture. Diagnosed by urethral instrumentation. Old age and many years freedom from symptoms after Neisser infection do not rule out stricture.
3. Intravesical prostatic hypertrophy. Diagnosed by cystoscopy. Often exists in absence of rectal findings.
4. Calculus. Diagnosed by cystoscopy and X-ray.
5. Tumor. Diagnosed by cystoscopy and history.
6. Diverticulum. Diagnosed by cystoscopy and cystogram. Symptomatology is indefinite.
7. Prostatic cyst. Diagnosed by cystoscopy.
8. Lesions of central nervous system. Diagnosed by history, general physical examination, rectal examination, cystoscopy, Wassermann test and spinal puncture.
9. Contracture of vesical orifice or median bar formation. Diagnosed by exclusion of other causes, by cystoscopy and by recto-urethral palpation.

A Case of Duodenal Ulcer in a Child.

Geo. W. Covey, M. A., M. D., Lincoln.

M. Y. Male. Age four years. First seen July 14, 1919, in consultation with Dr. H. J. Wertman at Milford, Neb. The following is the history obtained at that time.

Family history: Mother and father and two other children are well.

Past: Negative.

Present: This child was well until six months ago, at which time he was constipated for a number of days and complained of pain in the region of the navel, most marked immediately after meals and occasionally coming on while eating. He vomited his food a few times. There was no blood in the vomitus, and no tarry stools were seen at this time.

He was put on milk and eggs and apparently did well until five weeks ago, when he suddenly had a copious black liquid stool, after which he complained of pain for several days and was tender in the epigastrium. Continued to bleed (stool positive to guaiac) for five days. He became very pale and lost weight. He has not bled since until two days ago, when he again had black stools and has continued to do so until now. Does not complain of much pain. Has had no fever, rash, petechial spots or sore throat.

Examination at that time showed the temperature normal, pulse 140, marked waxy pallor, slight edema of lower eyelids, mouth, teeth and tonsils negative except for the pallor of the mucosae. He has a slight mucopurulent nasal discharge. Lungs seem negative. There is a loud systolic murmur heard all over precordium, but best at pulmonary area. Abdomen soft, no areas of tenderness defined. Spleen and liver are not palpable. Lymph nodes not enlarged. Reflexes normal. No petechial spots were seen.

A complete blood count was not obtained, but smears showed polynuclears 44 per cent, large lymphocytes 4 per cent, small lymphocytes 49 per cent, eosinophiles, 1 per cent. No nucleated reds were seen. Red cells show characteristics of secondary anemia.

The stool was black and contained a large quantity of blood, but no parasites or eggs.

It was decided to give him blood subcutaneously. Accordingly he received from 10 to 20 cc. of whole blood from his father every second day until he had had between fifteen and twenty injections. His anemia seemed to improve under this treatment, and he had no large hemorrhages.

The next time he came under observation was three months later (October 20, 1919), at which time the parents complained that he had had three or four attacks of transient but severe pain in the upper abdomen in the past three or four weeks, looked very pale, and was not making satisfactory progress. He was examined at the office and sent to the hospital, where he remained until January 11, 1920.

His physical findings at this time were not different from those recorded above. His urine was negative. His stool contained blood. His blood showed hemoglobin 30 per cent, polynuclears 28 per cent, lymphocytes 71 per cent, and eosinophiles 1 per cent. Normoblasts were seen.

The roentgen examination by Dr. Rowe was as follows: "The stomach was hypertonic, acute fishhook type, bordering on the steerhorn. Visualization of the entire alimentary tract was excellent. The stomach showed increased peristalsis and an abnormal pyloric action. The emptying seemed to be obstructed at the pylorus. First the duodenum filled from the upper part of the pylorus, and then from below. There was a five-hour retention, with marked peristalsis about the pylorus. Duodenum and cap were negative; small intestinal tract negative. The large bowel was filled nicely from end to end, and no abnormal findings could be detected. The appendix could not be demonstrated. The roentgen findings indicate the presence of a pyloric ulcer. There is no roentgen evidence of a foreign body."

The patient was put on hourly feedings of one ounce each of milk and cream twelve times daily. Each feeding was followed in half an hour by an alkaline powder. Two powders were used alternately—sodium bicarbonate and calcined magnesia, and sodium bicarbonate and calcium carbonate.

After five weeks on this treatment we found that he continued to bleed by bowel, had gained a little weight, but had not improved the blood picture. Therefore we added gradually soft cooked egg, toast, cream of wheat, baked potato, custard and rice pudding, and every second day gave one-half ampule of iron citrate green intramuscularly.

On November 29, 1919, the note says his spleen was just palpable and the liver two fingers below the border of the ribs.

With the exception of one week, he made a progressive recovery after more food was added and the iron citrate instituted. The week of difficulty occurred four weeks before his discharge. He vomited and had a little epigastric pain on several days. Waves of peristalsis over the stomach area were noted at this time, and tincture of belladonna Min. iii q. 3 h. was ordered. From that time on, his gain was steady.

The weight increased from 33 to 38½ pounds. The blood counts showed an increase from 30 to 60 per cent hemoglobin; from 3,648,000 to 5,240,000 red cells; white blood count from 4,400 to 8,800. The differential counts are unimportant. The spleen and liver receded, and the heart murmurs, although unaltered up to the last week, suddenly began to diminish and had almost disappeared.

Surgical treatment was seriously considered on admission to the hospital, but at that time the condition of the patient did not warrant it. When he was discharged, greatly improved, the parents were informed that he might relapse, and that in case he did, surgical treatment should be resorted to early enough to forestall his becoming in extremis again.

Differential Diagnosis.

Henoch's Purpura: This or some other form of purpura was thought of, but excluded because of the localization of the hemorrhage to a single area, namely, high in the intestine; no blood being seen in vomitus or bright blood in stools, no bleeding from other mucosae, no hematuria, no subcutaneous hemorrhages, and no so-called constitutional reaction.

Banti's Disease: Excluded because splenomegaly not marked and not primary, occurring very late at the height of the anemia, and quickly subsiding.

Duodenal Ulcer: This diagnosis is borne out by the history, physical, laboratory and X-ray findings, and seems the logical conclusion.

Frequency of Duodenal or Pyloric Ulcer in Children.

Holt (1) emphasizes the increasing frequency with which ulcers in children are found since 1908. He reports the findings in 95 cases under one year of age, collected in 1913. Duodenal ulcers are 10 to 1 more frequent than gastric, occur singly in two-thirds of the cases, and when single are usually almost at the pylorus and on the posterior wall. They are all above the papilla. There is little induration about them, and large vessels lie often in the base. Bloody stools or vomiting of blood, particularly the former, is the most characteristic symptom. The prognosis is not good.

Bartran (2) records four fatal cases coming to autopsy. His findings agree well with Holt's description. He emphasizes the possibility that we have failed to make the diagnosis in many of these cases in the past, and that his cases occurred in a group, thus making him think of a common etiologic factor. This factor, he concludes, is very probably a streptococcic infection.

Nuzum (3) reports a case of gastric ulcer which he concludes must have occurred in utero, since definite fibrous adhesions were present in an effort to protect this area when the baby died, twenty-four hours after birth. In conclusion, he thinks that many cases of pyloric spasm, indigestion and marasmus in infants may be ulcer; and that many cases of gastric and intestinal hemorrhage in infants and children, often attributed to other causes, are ulcer.

1. Holt, L. Emmett. "The Diseases of Infancy and Childhood," 1917, p. 343.
2. Bartran, W. H. "Duodenal Ulcer in Infants," Wis. Med. Jour. Aug., 1917, vol. xvi, p 85.
3. Nuzum, T. W. 'Gastric and Duodenal Ulcer in the New-Born," Wis. Med. Journal, Vol. XV, p 111, Sept., 1916.

The Examination of Large Bodies of Men for Tuberculosis.

(An Experience of the Service.)

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(Ass't Professor Physical Diagnosis, University of Nebraska, College of Medicine.)

Pathologists have long told us that fully three quarters or more of autopsies reveal healed lesions of tuberculosis. With this in mind, at the beginning of the work of examining recruits, one imagines that he will have opportunity to see how many of this 75% he will be able to find with demonstrable lesions.

At first we arranged groups of questions to ascertain points in the past history that would be suspicious of tuberculous infection. These in hand we went through a very careful physical examination. Our first task was to examine one thousand young athletes in the Officer's Training School. The questionnaire gave us no information at all for these men would never admit they had been sick or were sick in any way. We did find a great many departures from our ideas of normality, but in only one in the thousand were we able definitely to diagnose active tuberculosis.

The next group of ten thousand men examined were from the old Regular Army with quite a number of new recruits. It was here we began to learn our lesson. The histories, which we had so carefully prepared, showed three very striking things. (First) The very large number of men who would tell of having had an hemoptysis and in whom there was absolutely no evidence of pulmonary disease. (Second) The existence of extensive pulmonary tuberculosis in men who, from patriotic motives, would conceal carefully any symptoms of their disease. In contradistinction to these there was one case that had been under treatment in a tuberculosis hospital for two years and who had left the hospital with the express purpose of getting into the army so that he would later be cared for at the expense of the Government. He admitted his fraud after his discharge had been consummated.

The third factor was the excellent history of tuberculosis given by some men. These were even substantiated by letters from physicians, fictitious I should hope, telling of their findings in the case, but careful examination by several members of the Board failed to reveal any disease of importance.

The very thing upon which we depend in private work for a conception of a given case was therefore of no importance and it was accordingly discarded, making our judgment in each case rest purely upon the physical examination. This, at least, saved time and we were able to examine more men.

The cases we found at first were sent into the hospital in order that they might be still further studied and separated, as it were, from the rest. In each case a careful temperature record was taken and sputum examination made. It was not long, however, until we had two or more wards full of soldiers under observation. One case showed a constantly positive sputum and yet we were unable to find any lesion in the chest to account for it. One day, while going through the ward, we said to this man: "Where is the stuff you spit up?" He was somewhat abashed and a little fellow in the next bed replied for him: "He no spit, I spit for him." Here then was reason for more care in the sputum examination and because it was so time consuming and fraught with so many difficulties it was soon discarded.

We found that our impressions concerning a case were seldom, if ever, altered, after hospital observation. In other words, our judgment was no different than at the preliminary examination. We therefore discontinued the routine of sending in cases for continued observation.

At about the same time a group of radiographic enthusiasts began a routine examination of one thousand men by fluoroscopic and plate methods. They found something like 14 per cent of tuberculosis cases whereas the average for the physical examiner was but 1 per cent. It was evident that either the clinician was wrong or the radiographer an ultra expert.

The answer was easy. The examiner was diagnosticating clinical tuberculosis, whereas the radiologist was observing obselete arrested lesions of no importance. The expense entailed was so great that its routine practice was discontinued and was only allowed in the doubtful cases. But disease that gave very few physical findings, gave also very little in the X-ray and it was only by the greatest care in the hands of the expert that one obtained any help from it.

Finally, bereft of history, temperature record, days of observation and X-ray examination, was it possible to detect tuberculosis? If you had plenty of time to go over each case thoroughly, no doubt you would be willing to say you thought Yes or No. But, we were told that fifty men should be the minimum number to be examined by each examiner daily. This meant one could examine the men carefully and complete his decisions, or pick out the suspects, spending little time on the majority and considerable more on the suspicious cases.

Proceeding by this method brought one to the realization that he was reexamining a surprisingly large percentage of men. In the main, this was due to the fact that all of us had carried in our mind's eye a picture of a normal chest and any departure from that must be pathological.

On the face of it this impression is erroneous, but is it not largely the same as you have? Yet there are blue eyes and brown eyes, both normal, so also are there long chests and flat and round and each in its turn gave differences in the transmission of sound.

We began to broaden our concepts and especially so when we began to study the differences in the anatomy and consequent changes in conduction of sound above the right clavicle. But if one were to examine these cases rapidly it soon became evident that he should discard all extraneous movements and particularly time lost between cases. The necessity for a routine examination was imperative, but should it be complete or just pick out the important procedures? At our examinations there was a great deal of noise so that percussion, if performed at all, gave only such information as could be ascertained by the sense of touch and as a rule it was not used.

It was while I was still at the place where I was trying to get the best possible routine that I was ordered to the Army Medical School for instruction in Tuberculosis. There had just been a school established by Colonel Bushnell, under the direction of Major Roy D. Adams, to teach these very things that I had been wondering about. We were instructed upon Physical Diagnosis, not upon the diseased chest, but upon the normal chest and were shown its variations and signs that simulate disease.

The most important of all was to **"Begin examination by palpation, percussion and ausculation at the base of the lungs rather than from apices downward."** The reason for this being that one finds the normality in the chest itself, then by comparison with exactly corresponding areas on the two sides variations can be properly interpreted. And again, Tuberculosis is a disease of the upper portions of the lungs and not of the bases. This then gives one opportunity to contrast tuberculous changes in the apices with normality at the bases.

The other big lesson was in the method for eliciting rales. Ordinarily one expects to find rales with ordinary breathing or after a careless cough. When this is performed after a full inspiration only the moisture in the large tubes is moved and the rales from moisture in the smaller bronchioles are not heard. If, however, a full exhalation is made followed by a short cough the walls of the very small bronchioles and alveoli approximate each other and in their separation in the succeeding inspiration very evident showers of typical rales are heard.

Our work now made easy, it was only necessary to practice to become proficient and soon one was able to examine carefully 150 men daily and under press of circumstances this number could be doubled.

The far reaching results of this school prompted the establishment of others at Fts. Benjamin Harrison, Oglethorpe and Riley, and later at the U. S. Army General Hospital at Yale University. Through these schools there must have passed 1,500 to 2,000 doctors and I am sure each was enthusiastic enough to impart his knowledge gained to others. In this way the greatest stride has been made in the history of our country toward the goal of the "Early Diagnosis of Tuberculosis."

Later, by an assignment to an Army Tuberculosis Hospital, opportunity was given for studying the results of treatment in these cases. One could not help but be struck by the very large percentage of cases of active disease without temperature or other clinical symptoms. The great majority of these cases had been discovered from two to five years before they would have been had they been in civilian life and allowed to seek medical advice when they became ill.

The work of the army in tuberculosis has, in my opinion, started the ball rolling in a new direction and one that is bound to accomplish the greatest results possible. In the first place it has instructed thousands of doctors in the recognition of tuberculosis. The tuberculous out of nearly 4,000,000 young men have been detected. In these instances either the family are giving adequate care or the National Tuberculosis Association is seeing that they receive care along the lines of modern treatment. Those who are at present in the Army hospitals will be taken care of by the Government until their disease is arrested or carried as far as possible toward that end.

Vocational training is given all those, who are able, to fit them to "Carry On" in spite of their disease. And all this during the ages of greatest industrial activity and corresponding ravages of the disease. It is indeed difficult to estimate the magnitude of the results which are to be forthcoming.

There is also a very important lesson in the epidemiology of the disease. Our troops were subjected to all sorts of hardships in the trenches and if they were susceptible to the disease they surely would have contracted it from the fellow who could not have taken care of his sputum. But there was no epidemic of the disease, nor in all the cases could one discover a single case of such infection. This can only mean, that instead of our race having a predisposition toward disease that through the ages we have built up an immunity against it.

This racial immunity is supplemented by an individual immunity from the acquirement of tuberculous disease in infancy. Adult tuberculosis then is only the manifestation of lapses of this immunity. How much easier it is then for us to conceive of the reestablishment of that immunity which we designate as a cure.

It has been demonstrated beyond a doubt that there is no short cut in the diagnosis of Tuberculosis and that the hope of the future for the Early Diagnosis of Manifest Tuberculosis lies in a careful Physical Examination. The important things to remember about this examination are:

1. A careful routine.
2. Careful and thorough inspection.
3. The examination by palpation, percussion and auscultation from the bases toward the apex; viz, from normal to pathological.
4. The variations of the normal chest. Every chest has a normality unto itself, the fundamentals of which can be found in the bases.
6. A separate painstaking examination for rales which should be: Listening for the inspiration succeeding a deep exhalation followed by cough.

Discussion.

John F. Allen, M. D.—It is of course possible, and indeed it now seems probable, that as a result of an infection acquired in childhood we each possess a definite immunity to tuberculosis. The great majority retain this immunity throughout life, and do not at any time, even temporarily, lose the power to resist successfully constant and repeated contact with the offending organisms. A small percentage, however, losing to a certain extent their immunity or power of resistance, develop an active pulmonary lesion, and become cases of manifest pulmonary tuberculosis or phthisis. At the present time, we speak properly, in view of this conception, of the seventy-five to ninety percent, or possibly one hundred per cent, as possessing an acquired immunity, and not as having had tuberculosis. Likewise the expression or term "Pulmonary Tuberculosis" is limited to those cases, where immunity has been partially lost or resistance lowered, and the clinical symptoms and physical signs of the disease become manifest.

In the matter of examining the large number of men, who had been accepted for military service, for pulmonary disease, the end in view was the elimination as rapidly and completely as possible of all cases of manifest pulmonary tuberculosis. As Dr. Anderson has mentioned, the taking of histories, the matter of observation for a certain period, and the routine radiographic examination, after a short experience, were all necessarily discarded. Such methods entailed the loss of too much time at too great an expense, and above all, in the opinion of a great majority of the men engaged in the work, did not materially assist in accomplishing the desired purpose.

Regarding the use of brief histories, obtained by questioning the man to be examined, it was reasonable to say, regardless of how definitely indicative of pulmonary disease symptoms related to have previously occurred, might have appeared, if there were no abnormal physical signs apparent in the chest, there was no justification, from a military standpoint, nor from a medical view point, for classing the individual as tuberculous. On the other hand when positive, definite physical signs, gross and apparent, were found, without any substantiating history, past or present, as was quite often the case, the absence of history was necessarily of no consideration.

Therefore, depending upon physical signs almost entirely, it became necessary to develop a routine of procedure, the purpose of which was to attain the greatest speed and the most accurate results. Such a system, which came to be in common usage among the examiners, Dr. Anderson has described. The most important parts of which were to proceed from the bases of the lungs upwards, with the idea of going from the normal to the pathological, if pathology was present, and the elicitation of rales by cough following expiration. The examination of 200 men and more a day, if necessary, by one examiner, of course was only made possible by the fact that they were instructed and drilled in the line before reaching him and there was neither lost time, nor motion, and absolutely nothing extraneous to require his attention.

The difference in the percentage of cases found in different groups of men, as mentioned by Dr. Anderson in his reference to one case occurring among the first body of 1,000 picked men, is simply illustrative of the fact that pulmonary tuberculosis is to an important degree, a question of environment or sociology, an economic disease. Men from different social strata differed slightly but definitely in percentage of cases, as did groups coming from the large cities and from the country. The colored race 4,000 of whom, natives of Florida, were examined by two of us in two weeks, were found to have two per cent, or double the general average of white troops.

Observation for a few days or even weeks, in the hospital did not result, in the majority of cases, in enabling one to arrive at a more definite diagnosis, nor a more certain opinion than could be given by devoting a little special attention at the time of the routine examination, supplemented as it was in all uncertain cases, by a reexamination at the end of a week.

I believe that among those who spent several months in the daily routine examination of men, with the one definite purpose in view, and who had in addition a rather considerable hospital experience, with the same class of cases, there is a consensus of opinion in regard to certain points, relative to pulmonary tuberculosis, none of which are necessarily new, but all of which were much more thoroughly established and confirmed by that experience. These refer to methods of physical examination, both as to routine procedure, having to do with the elicitation and interpretation of signs, and to the matter of immunity and infectiousness.

I would say, without taking the time to give the evidence upon which such conclusions are based that upon the following deductions, arrived at by individual experience, there was practically general agreement:

1. It is logical, most instructive, and therefore most important to proceed from below upward in examinations of the chest. This method was partially introduced several years before the war in an article which dealt however, with percussion alone.
2. Consider radiographic evidence, before committing oneself on a diagnosis of pulmonary tuberculosis when there are no signs of activity (rales).
3. The typical rales of tuberculosis indicative of activity are best elicited by exhalation and cough and may be missed entirely in an active lesion if this method is ignored.
4. Pulmonary lesions or involvement at the bases are not tuberculous when no pathology exists in the upper lobes.
5. Lung pathology in the apices is justifiably considered as tuberculous until proven otherwise.
6. In non-tuberculous pulmonary conditions, especially if occurring before middle life, nose, throat and sinus infections are often responsible.
7. Pulmonary tuberculosis as a new infection is rarely if ever acquired by the adult.
8. Extensive and active tuberculous lung involvement may exist without symptoms appreciable on the part of the patient.
9. Sputum examination is undependable and unimportant diagnostically.

The Legitimate Role of the Diagnostic Laboratory.

H. E. Eggers, M. D., Omaha.

With specialization in laboratory methods and their applications the diagnostic laboratory limiting itself strictly to the laboratory end of medical practice is assuming a more and more legitimate scope. To the general practitioner, and even to the specialist in various phases of clinical medicine, it offers an opportunity for independent data which would be lacking were he to be dependent for them on his own efforts.

To just what extent is the clinician justified in calling on the resources of an outside laboratory and in entailing on the patient the extra expense of such work? In general it may be said that three considerations alone should determine the answer, assuming that the laboratory procedure is one that in any probability will be of value either in diagnosis or prognosis. First, is the procedure one requiring specialized technique or judgment, beyond the scope of the clinician; second, is the equipment required of such a character as to make it too expensive or cumbersome for his office; third, is the test one requiring more time than the clinician can afford? The latter consideration must necessarily be one for the individual to determine for himself—as to a certain extent is also true of the first two. However, in regard to the question of specialized technique or judgment, very few clinicians have occasion to use certain laboratory procedures to the extent of acquiring real familiarity with them and such procedures are as a rule far more competently done by the laboratory, where, getting material from sources more or less numerous, in the aggregate even the more unusual tests become thoroughly familiar.

The more usual clinical laboratory procedures come under several well defined groups, arranged according to their usual frequency as follows:

1. Serological tests.
2. Tissue examinations.
3. Bacteriological examinations.
4. Chemical examinations, including those of physiological chemistry.

Certain other frequent laboratory procedures, notably blood examinations, are of limited applicability owing to the fact that material for them cannot be transported any considerable distance.

Of the above groups, in the first the Wassermann test stands foremost as probably the one laboratory procedure to which resort is most often made. This should by all means be a test for the specialized laboratory worker, for various reasons. It requires a certain amount of specialized technique; it requires special equipment and supplies, several of the latter of extremely perishable character if the best results are to be obtained; it is a test of such sort that the larger the number done at one time the greater is the accuracy; and finally, if certain simple precautions are observed, the material for it can be sent for considerable distances without appreciable deterioration. Of other frequent serological tests the various agglutination tests are only doubtfully within the role of the specialized laboratory. Fairly accurate results are obtainable by gross methods—methods so simple and requiring so little time that the average clinicians can make tests for themselves. Of one class of agglutination testing this is less true; the typing of the pneumococcus, requiring as it does either preliminary cultivation or animal inoculation, is best performed by the outside laboratory.

The second group, tissue examinations, is preeminently work for the specialist. In no one field of laboratory work does the personal equation play a larger part, as each case is one to be interpreted for itself and that only by mental—occasionally by actual—comparison with large amounts of material seen before. It may be said in passing that no one phase of work is more likely to bring into disrepute the laboratory that does careless or incompetent work.

It is in the third group, that of bacteriological examination, that the greatest scope is left for the clinician to decide just what he himself will do and what he will refer. In general, with most clinicians, a fairly safe rule is that work requiring cultural or animal inoculation methods is best referred to the laboratory; while work requiring mere microscopic examination, even though special stains be necessary, is as a rule best done by the practitioner himself. Needless to say, exigencies of time must determine the question for each individual, but the man who is too busy to possess and constantly use a good microscope, is too busy to practice good medicine.

The greater part of clinical chemical work lies within the role of the outside laboratory; but here too the simpler procedures require neither so much time nor equipment as to unfit them for the clinician. Routine urine and stomach analysis are by far best done at home. Only the special cases—those requiring confirmatory opinions or those in regard to which the clinician cannot be sure of his results—are legitimate subjects for the clinical laboratory. As regards the more refined biochemical procedures the exact opposite is true. As an almost invariable rule these require both specialized equipment and technique to a sufficient degree to place them in the hands of the specialist.

Blood examinations in general are best done by the clinician himself. Probably no one laboratory procedure is of more universal value than the numerical white blood count.

With sufficient practice it takes little time. It does not admit of being done at a distance—all of these considerations remove it from the proper field of referred laboratory work, and the same is true to a greater or lesser degree of most of the remaining phases of blood examination.

Finally there is one field for the diagnostic laboratory of which the clinician appears to be almost entirely unaware. Not seldom the laboratory is asked for certain determinations the value of which is at best exceedingly doubtful; while certain others unrequested, might be expected to solve the problem. The experienced laboratory worker is ordinarily a better judge in such matters, meeting as he does numerous problems from the laboratory angle, than is the average clinician. And in any laboratory worthy of the name unbiased advice is to be had for the asking; but the asking is very infrequent.

If you favor meter-liter-gram, write to your congressman and urge its adoption in this country now.

The person who injures us we may forgive, but not the person whom we have injured. There is no animosity that abides and grows like that against one whom we have wronged.

A friendship that costs nothing is usually worth just about that much. Loyalty, unselfishness, and faith are the price we must pay for every life we bind to our own if we would hold the precious possession.

Deaths from diabetes numbered 12,927, or 15.8 per 100,000. The rate from this disease increased almost continuously from 9.7 in 1900 to 17.0 in 1916, but since 1916 a slight decrease for each year is apparent. The rate for 1917 was 16.9.

"Why do you have an apple as your trademark?" asked a client of the cash tailor.

"Well, well," replied the man, rubbing his hands, "if it hadn't been for an apple, where would the clothing business be today?"—Exchange.

Typhoid fever resulted in 10,210 deaths, or 12.5 per 100,000. The mortality rate from this cause has shown a remarkable reduction since 1900, when it was 35.9, the proportional decrease amounting to 65 per cent. This highly gratifying decline demonstrates in a striking manner the efficacy of improved sanitation and of the modern method of prevention—the use of the antityphoid vaccine.

A retail dealer in buggies doing business in one of the larger towns in northern Indiana wrote to a firm in the east ordering a carload of buggies. The firm wired him: :

"Cannot ship buggies until you pay for your last consignment."

"Unable to wait so long," telegraphed the buggy-dealer; "cancel the order."

Tuberculosis in its various forms caused 122,040 deaths, of which 108,365 were due to tuberculosis of the lungs. The death rate from all forms of tuberculosis was 149.1 per 100,000, and from tuberculosis of the lungs, 132.4. The rate from tuberculosis of all forms declined continuously from 200.7 per 100,000 in 1904 to 141.6 in 1916, the decrease amounting to nearly 30 per cent; but for 1917 and 1918 increases are shown, the 1918 rate being somewhat higher than the rate for 1917, when it was 146.4. Until 1912 more deaths were due to tuberculosis than to any other single cause, but in that year and during the period 1914-1918 the mortality from tuberculosis was less than that from heart diseases.

Under Criticism.

Taking some one else's word for it that we are making mistakes is one of the hardest accomplishments human beings acquire. Even when willing to acknowledge an actual fault, we are inclined to disbelieve that we have committed it. We cannot see ourselves as others see us, yet we dislike to take another's word for it. How foolish such an attitude may become is shown in the experience of many a football and baseball player. Managers and interested friends told them that they were playing too high or standing incorrectly at the plate, but the subject of criticism refused to believe it. Yet when a photograph of themselves in the criticized positions was shown to them, they were compelled to acknowledge their fault. Their friends had been right, after all. Why must we wait "to be shown," before we are willing to confess we are wrong? A good rule for anyone is this: Find a trustworthy friend, seek his opinion as to any mistakes you may be making, then believe him.

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The Annual Convention.

The Annual Convention of the State Association takes place in Omaha the latter part of next month and will be the first meeting on a real post war basis. Last year's meeting was really a war meeting as many members of the Association had just returned. During the year a certain readjustment has taken place and we are now ready to take up the problems of peace times. These are many and too many to allude to here. We will have a greater knowledge of them at this meeting as this year the annual meeting of the American Medical Association takes place at New Orleans before our State meeting. We will therefore have the advantage of the information which our delegates and members bring back from the A. M. A. This should prove an added incentive to attend the State Society.

The scientific program will be a most important and instructive one and will be rather unusual in some particulars. In addition to the papers of the scientific session there will be clinics in the various departments or specialties of medicine given in the hospitals of Omaha to which as many as can be accommodated will be welcome. These clinics will be arranged so as not to conflict with the scientific session and will be short and practical. Those at the University of Nebraska Hospital will be held at 8 a. m. and will last but one hour.

Shortly following the State Convention a Post Graduate week will be held at the University of Nebraska College of Medicine. This has been arranged in compliance with the wishes of the Council on Medical Education of the American Medical Association and the United States Public Health Service. Courses in the various specialties of medicine will be given and particular stress will be laid on the course on the Diagnosis and Treatment of Syphilis and Gonorrhoea which will be designed along lines conforming to the Venereal Campaign inaugurated by the United States Public Health Service. The courses given during post graduate week are open to all practitioners of the state irrespective of university affiliations and are not at all restricted.

The convention this year thus offers unusual opportunities and it is earnestly hoped that every practitioner in the State that can will so arrange his affairs to be present at the meeting and make the coming convention the largest and most successful ever held.

Vocational Schools.

Provision for the education of children who for various reasons are mentally backward, is greatly needed in Nebraska. Our state provides schools for the feebleminded who cannot be cared for in the public schools, but we are very neglectful in establishing schools—public or private—for the training of subnormal children who do not fit in present day graded schools. The work of a public school teacher is handicapped by the presence of even one subnormal child in her class room. These children are hindered in advancement by association with normal children, who in their childish glee pester the unfortunate child, making impossible the full exercise of his impaired mental faculties. In Omaha the Board of Education has designated certain of our public school buildings, where these subnormal children may be sent and then grouped in classes according to their mental status. Additional provision from time to time will be made, as the patrons learn to appreciate their value. Similar arrangements are doubtless made in Lincoln, Grand Island and other populous centers in the state. All these show progress, but cannot be made practical in the rural communities. Physicians are asked to prescribe for children who they recognize are subnormal, and who are more in need of proper school facilities than drug medication. Their delinquency bars them from our public schools. They are capable of acquiring and applying knowledge in vocational work, and should have the privilege of attending schools where such training may be obtained. Private institutions are desirable, for those who can avail themselves of the advantages they afford. Omaha is a good center for a well equipped private school for the education of subnormal children.

The Code Bill.

It seems to be the concensus of opinion of the organized medical profession that they have taken an attitude of defending the public against themselves about as long as is consistent with their dignity and with reason. It does seem to them, from all we can learn, that they are now and will always be willing to advise with the authorities to whom the duties shall be delegated by the state government, as to the best methods of staying the practice of the incompetent and of carrying out all of the best sanitary measures that the statutes may provide. The study of the subject would indicate that the tendency is on the part of the profession to hope that the authority to enforce these health measures may be given by the state government to a board whose executive shall not be a medical man, but one who by education and training may be fitted to carry out the highest measures in the interest of sanitary work and in the raising of the standard of medical education. It has been most graitfying to the committees of the medical profession who have been brought in contact with one governor to learn that he has had, and maintains a clear conception of the work as outlined above and for the efficiency promised along these lines. The code bill, as introduced by Gov. McKelvie comes nearer to this vision of efficiency than anything that the legislature of Nebraska has ever initiated.

Our Critics.

Criticism that the Journal accepts advertisements from those said to be unethical in business and professional conduct, or from firms whose goods are not accepted by the Council on Pharmacy and Chemistry of the A. M. A., has been made to the Journal. Our Journal Committee appreciates suggestions advising us of any patrons on our list of advertisers who are violating the provisions of their contract. We are also cognizant of the fact that if in any case the accused patron is a physician and member of his county society, the proof of unethical conduct must be sustained by the local medical society granting his membership. See the county Constitution and By-Laws, page 4, chapter I, sections 1 and 7; also state Constitution and By-Laws, chapter 15, section 11. In justice to our Journal Committee, the unit of our State Association organization must bear the responsibility if members are received and retained who are guilty of unethical or unjust business transactions.

House Cleaning.

A movement to prevent the sale in Nebraska for beverage purposes of patent medicine, proprietary remedies, perfumes and drugs of high alcoholic content, has been launched by State's Attorney General Clarence A. Davis. The Journal supports honest efforts by our Attorney General in this laudable attempt to eliminate the use of patent medicines. This is not because of the alcohol they contain, but because they represent polypharmacy and a secret combination of drugs often wholly unknown to the person recommending their use. Our profession has been a potent factor in supporting the use of "advertised" preparations compounded by promoters of "palatable potions" solely for commercial gains. The doctor not instructed in drugs and their therapeutic action, finds it easy to write for some well advertised preparation said to effectually relieve or cure the disorder he has diagnosed. Our profession should write their own combinations and discourage by practice and precept the use of any medicinal remedies not recognized by our N. F.

Think It Over!

Doctor are you co-operating in the control of venereal diseases to the extent that you are reporting all your cases regardless of stage?

Do you realize that the public as a means of self protection is going to demand not only that you report venereal disease cases as required by law but also that you inform them specifically regarding their condition, irrespective of marital condition—possibly you question this statement—permit me to say to you that more thought is being given to the subject of venereal disease than ever before in the history of the world and while the subject was avoided in the past now people in all classes of society are voluntarily seeking information concerning these diseases which means that the Doctor will be judged not alone by his attitude but by his actions.

The Doctor who thinks he is "putting something over" by calling his cases of gonorrheal infection "urethritis" is simply preparing a boomerang for himself which instead of building a practice will inevitably shatter what might have been a substantial one if on an honest not camouflage basis. You absolutely cannot "get by" indefinitely if you resort to such methods. Some may state that they are compelled to camouflage to a certain extent, did such an individual ever stop to carefully analyze the situation—did he, with an effective law which we now have—explain the law, act perfectly frank with the patient and thereby secure his confidence, go into the details of the condition, explain briefly the facts existing, the danger of infecting others, the sequellae, necessity for faithful, persistent treatment especially after the stage when patient might believe himself or herself cured—if so what was the result?

Did he have a modicum of excuse for camouflage or did he not have a grateful patient who was turning over in their mind what arrangements could be made to meet the financial obligation that would be a consequence of such honest, careful, faithful and effective treatment?

Ah! you state the patient will finally tire at the prolonged treatment necessary—admitted—but if you are losing interest so will the patient and he will be the first to discover that fact. You, Doctor can keep your patient interested and under treatment voluntarily in practically all cases if you remain awake and are on the job, you cannot afford to be indifferent—it all sums up finally to the same general principles involved in the successful handling and treatment of any case coming under your care.

Where do you stand, do you propose to improve yourself, thereby improving the profession as a whole and attain the higher standard that spells success in all respects (financial included) or will you let yourself slip into the "rut"—procrastination, indifference—eventually what you know right down deep is failure.

What has venereal disease to do with all this? No one can answer that fully except as stated before, the people are waking up and thinking, you know what that means. Explanation would be superfluous.

The movement toward the control of venereal disease has gone too far to either fail or to cease so—Think It Over.

P. H. B.

In this issue we print the list of applicants who passed the last examination and those who were accepted by reciprocity at the last meeting of the Medical Board. The next regular meeting of the Medical Board will be in June, unless for some reason a special meeting should be called. The Bureau of Examining Boards under the Department of Public Welfare has listed all the names of all professional people registered in the state. All applications for the privilege of practicing medicine in Nebraska should be sent to the Department of Public Welfare, H. H. Antles, Secretary, Lincoln, Neb.

Lawyers and Doctors.

Every first rate doctor in some fashion puts his training at the service of the community. Some do much, some little; but to recognize no public responsibility lowers a man in the eyes of his colleagues, if not in public opinion.

How about the lawyers?

A most forcible arraignment of the lack of idealism in the American bar was uttered Monday in Los Angeles by Samuel Untermyer of New York. He charged that our best known lawyers were no longer interested in LAW, but in business; that many of them, superb though they might be as executives, knew less law and cared less for the science than the junior clerks in their offices. He declared that among American lawyers protection of money interests takes precedence over the defense of life, liberty and reputation.

And he pointed out that just now, with the problems of social and economic unrest, reconstruction and adjustment, when the interference of all kinds with personal liberty was far beyond what it had ever been, and when in consequence lawyers could be of the greatest possible service to the country in seeing that grave injustices were not done, hardly a lawyer of standing has undertaken the great work which only such as he can do.

Mr. Untermyer made no plea for any sort of personal liberty or any variety of attitude. His charge, substantiated by evidence, is that lawyers regard themselves as without social responsibility.

The public will wonder. The doctors will laugh. Only they know how much greater are the sacrifices, how much smaller the rewards, in their field of labor than in the legal profession. But they know, too, that the standing of their profession, as a whole, is higher in general estimation than is that of their friends of the bar; and the knowledge may perhaps content them.—Chicago Herald and Examiner.

List of Men Who Appeared Before the Board of Medical Examiners.

McGovern, Bernard	Nebraska University	Vail, Iowa
Grodinsky, Manuel	Nebraska University	Omaha, Neb.
Weymuller, Chas. A.	Nebraska University	Omaha, Neb.
Muskin, Nathan	Nebraska University	Omaha, Neb.
Johnson, Darlein Ivers	Nebraska University	Omaha, Neb.
Neville, J. William	Nebraska University	Hildreth, Neb.
Bolton, Dan W.	Nebraska University	Paxico, Kas.
Surber, Raymond	Nebraska University	Waterbury, Neb.
Priest, Paul Herbert	Nebraska University	Lincoln, Neb.
Mulligan, Harold Rowe	Nebraska University	Beatrice, Neb.
Chain, Lee W.	Nebraska University	Omaha, Neb.
Jones, Glen Albert	Nebraska University	Omaha, Neb.
French, Oscar W.	Nebraska University	Page, Neb.
Fahrenbruck, Wm. Henry	Nebraska University	Culbertson, Neb.
Miller, Walter C.	Nebraska University	Council Bluffs, Iowa
Coolen, Freeman Stuart	Nebraska University	McCluskey, N. D.
Camp, Earl F.	Nebraska University	Omaha, Neb.
Johnson, Ernest DeLogne	Nebraska University	Omaha, Neb.
Graham, Alfred Clifton	Nebraska University	Omaha, Neb.
Harvey, Walter Carlson	Nebraska University	Omaha, Neb.
Ravitz, Sol E.	Nebraska University	Omaha, Neb.
Balcom, Ray D.	Nebraska University	Omaha, Neb.
Huestis, Chas. B.	Nebraska University	Omaha, Neb.
Melcher, Wm. Henry	Nebraska University	Omaha, Neb.
Collins, Floyd	Nebraska University	Ord, Neb.
Rudloff, Francis X.	Nebraska University	Omaha, Neb.
Stewart, Howard C.	Nebraska University	Omaha, Neb.
Lissack, Edmund H. M.	Nebraska University	Omaha, Neb.
Church, Ira Otis	Nebraska University	University Place, Neb.
Harvey, Harry E.	Nebraska University	Omaha, Neb.
Weeth, Charles R.	Nebraska University	Omaha, Neb.
Walvoord, James Henry	Nebraska University	Holland, Neb.
Hunt, Katherine Moran	Nebraska University	Omaha, Neb.
Pedersen, Andrew Meyer	Nebraska University	Omaha, Neb.
Murphy, Bradford J.	Nebraska University	Omaha, Neb.
Borghoff, John A.	Nebraska University	Omaha, Neb.
Gerrie, Wallace A.	Nebraska University	Omaha, Neb.
Deal, William Floyd	Nebraska University	St. Francis, Kas.
Howard, Maurice C.	Creighton	Omaha, Neb.
McCormick, Lawrence	Nebraska University	Omaha, Neb.
Keller, Samuel	Nebraska University	Fremont, Neb.
Burgeson, Daniel Leroy	Loma Linda—reciprocity	Hastings, Calif.
Burgeson, Edna F. Patterson	Loma Linda—reciprocity	Hastings, Calif.
Anderson, Earvye Harry	Loyola, Chicago—reciprocity	Omaha, Ill.
Drouin, Wilfred Geo.	Laval, Montreal—reciprocity	Holyoke, Mass.
Peters, Roy Elliot	Loyola, Chicago—reciprocity	Wymore, Ill.
Lyman, John Cushman	John Hopkins—reciprocity	Omaha, Wash.
Folsom, Shirley Dair	Hahnemann—reciprocity	Omaha, Ill.
Chapman, Forrest L.	Loyola, Chicago—reciprocity	Lincoln, Ill.
Ritchey, Henry Cannon	Chicago Col. Med. & S.—reciprocity	Bridgeport, Ill.
McKee, Clarence Styles	University of Penn.—reciprocity	Geneva, Nat'l Bd.
Reed, Orville C.	S. W. of Med. K. C.—reciprocity	Hastings, Kas.
Beckman, Peter Wm.	Barnes Med.—reciprocity	Lindsborg, Kas.
Whaley, Adda M.	Soo Cy. Coll Med.—reciprocity	Charter Oak, Ia.
Wiggins, Herbert (colored)	Ann Arbor—reciprocity	Omaha, Ala.
Kittredge, Merton Ray	Ohio State Uni—reciprocity	Farnam, Neb.-Ohio
Rosenblatt, Sol	Loyola, Chicago—reciprocity	Superior, Ill.
Adair, John Harvey	Ecl. Med. Cin., O.—reciprocity	Wall, S. D.-Ohio
Heacock, Frank Mills	Creighton—reciprocity	Gretna, U. S. N. Com.
Freyman, John J.	Creighton—reciprocity	Gt. Lakes, U. S. N. Com.
Rush, Weaver Aldus	Nebraska University—reciprocity	Beatrice, Iowa
Smith, John Francis	Loyola, Chicago—reciprocity	Chicago, Ill.
Moore, Harris Carrahan	Bennett Medical—reciprocity	Brock, Neb.-Ariz.
Steenberg, Edmund Kenneth	Harvard—reciprocity	Aurora, Mass
Buis, Albertus Henry	Rush Medical—reciprocity	Pender, Ill.
Briggs, Harry Arthur	Uni. Texas—reciprocity	Archer, Neb.-Texas
Sprecher, Samuel	Ill. Coll. P. & S.—reciprocity	Tripp, S. D.-Ill.

Report to The Nebraska State Medical Society of the Advisory Committee for Nebraska on Hospital Standardization of the Council on Medical Education of the American Medical Association.

In 1918, the Council on Medical Education of the American Medical Association, requested President C. L. Mullins of the Nebraska State Medical Association to appoint a State Advisory Committee on the Standardization of Hospitals. A. D. Dunn, Irving S. Cutter and J. Stanley Welch, were appointed as the Committee.

Prior to 1918, the Council on Medical Education had made two surveys of the hospitals of the United States, the first in 1912 and 1913, the second one in 1915. The third hospital survey was taken in April, 1918. At this time, there were 6,440 hospitals in the United States having ten or more beds, or a total capacity of 758,442 beds. Of these hospitals, 4,927 had from 10 to 100 beds; 817 had from 100 to 200; 447 had from 200 to 500, and 277 had over 500 beds.

The immediate purpose of these surveys was to determine the fitness of hospitals to meet the requirements of a compulsory "fifth year" to be spent by the medical student as an intern in a hospital. It was clear, at a joint meeting of the Council on Medical Education, the Association of American Medical Colleges and the Association of State Boards, in March, 1919, that these organizations were committed to the policy of the hospital year, and that the "fifth year" would soon be an accomplished fact. The remote purpose of the inspection, whose scope was widened to include all hospitals, was to advance the standards of the hospitals throughout the country and thus to provide ultimately scientific care for the sick. Blanks which were sent out by the Council on Medical Education brought the information that 5,342 hospitals, or 82.6 percent, did not use interns and that only 1,126 hospitals, or 17.4 percent, were using or desired to have them. These 1,126 hospitals desiring interns, had, however, 35.6 per cent of the total bed capacity. It was also shown that the demand for interns was far in excess of the supply.

In the summer of 1919, the data obtained by the prior surveys, literature, and instructions, were placed in the hands of the State Advisory Committees. The Committees also received questionaires which had been filled out by the hospitals which had signified their desire for interns to the Council on Medical Education. The inspection to be made, covered the construction, condition, location, and sanitation of the hospital; its finances; the number of beds, and their distribution; the number of patients taken care of by the hospital and their type; the equipment which included operating rooms, sterilizers, dressing rooms, electrocardiograph, Roentgenological, pathological and clinical laboratories and their equipment; and autopsy rooms. It included the provisions for anaesthetics, dietetics, for library, for social service, for accident service, and for out-patient departments. Emphasis was placed upon the histories and records, by whom taken, and made, by whom signed, and how filed, and on methods of indexing. The methods of running the training school were to be investigated, the superintendent and her degrees; the number of nurses, their instruction and supervision, etc. The qualifications and organization of the staff was a crucial point. Inquiries were made as to the number of interns in the hospital, rates to patients, length of service, how appointed, supervision and instructions, opportunities for history taking and physical examinations; for roentgenological, pathological and clinical laboratory work; for anaesthetics; for accident service, maternity cases, major and minor surgical operations, and out-patient work; and for autopsies. Finally the Committee was asked to specify what it considered the excellent points and the defects of the hospital and to make recommendations for improvement.

After the arduous labor of inspecting the hospitals which was done by the Committee and its subcommittees, a tentative classification of the hospitals in the state was made and submitted. The instruction for this classification was furnished by the Council on Medical Education and were as follows:

"It is desired that all hospitals be arranged in three groups as follows: Group 1, general hospitals; group 2, special hospitals and group 3, State or other hospitals for nervous and mental or insane patients. Under each group, the hospitals should be listed as follows:

Class A: Hospitals that without question are in position to furnish an acceptable training for interns in accordance with the enclosed standard of essentials.

Class B: Doubtful cases or hospitals which are deficient in certain important particulars but which may be capable of furnishing acceptable internships.

Class C: Hospitals which without question are not capable of furnishing acceptable internships.

For Hospitals Not Having Interns.

In another group (Group 4) include all hospitals which do not desire or make use of interns. According to the character of their buildings, equipment, management, system of treatment, staff, etc., classify them as follows: Class A, excellent; Class B, good; Class C, fair; Class D, poor, and Class E, bad."

The classification, with the following report, was sent to the Council on Medical Education on January 28th, 1920.

"Your Committee appointed to make an inspection of the hospitals of Nebraska, under the direction of the Council on Medical Education of the American Medical Association, began active work September 1st, 1919. The thirteen hospitals desiring interns were each inspected personally by at least two members of the Committee. Inspection of hospitals not desiring interns, were made by members of the Committee and by sub-Committees. Individual members of the Committee visited and reported on some of the smaller hospitals. Many of the small hospitals of the state were reasonably well known to one or more members of the Committee, yet letters were sent to representative men throughout the state, appointing them as sub-committeemen, and enclosing questionnaire Form F which they were requested to use as a basis of inspection and to fill out in so far as this questionnaire was applicable to the local hospitals. In case of failure to receive a reply within thirty days, a second, more urgent letter, followed. In several cases, the men who were requested to act as sub-committeemen, failed to respond and the time was too short to appoint substitutes. In this manner, the Committee was able to obtain quite accurate information in regard to many of the smaller hospitals throughout the state. In some instances, responses were not forthcoming because of the feeling on the part of physicians operating small, privately owned, hospitals, that the Council on Medical Education was planning to do to the smaller hospitals what had been done to the smaller medical colleges. On the whole, however, the spirit of cooperation was good.

The Committee felt that certain facts must be borne in mind in evaluating the hospital situation in Nebraska.

1. Nebraska is a sparsely settled rural state. According to the last census it had 12 cities of over 5,000 inhabitants, one of which was over 10,000, one over 25,000 (South Omaha), one over 40,000 and one over 100,000. Nebraska is a large state and has 65,840 square miles of surface with 1,192,214 inhabitants, while Pennsylvania has 44,985 square miles with 7,665,111 inhabitants. Pennsylvania has a population of 170.4 per square miles, or over 11 times the Nebraska population per square mile, (15.5). This means that the Nebraska physician must cover per patient, 11 times more territory than the Pennsylvania physician. It is to be considered, also, that the number of patients allotted to the Nebraska physician is greater. This young western community suffers also from the lack of the transportation facilities of the older states, roads in some parts of the state are mere trails across the cattle ranges and the problems of medical practice differ widely from those of the old, well established eastern communities, hence the machinery for medical practice, of which the hospital is an integral part, should not be measured by the same standards. The practitioner in the small town must of necessity, cover a broad expanse of contributory territory which at certain times of the year is inaccessible except under extreme hardships, hence he has established the small hospital of five to twenty beds to enable him to concentrate his patients and allow him to spend a goodly part of his working day as a physician instead of as a chauffeur. Occasionally, physicians have been able to induce some religious order to build and run a small hospital for them. The actual service rendered to rural communities by these small hospitals, is inestimable. They are monuments to the energy and ability of the lonely practitioner. It is there that he performs minor and emergency operations that would otherwise have to be done in a farm or ranch house. He works alone with a nurse or two, or with one or two physicians, often from neighboring towns. It is clear that the same standards cannot be utilized in classifying a hospital in a town of 500 to 1,000 inhabitants far distant from a city, as would be used in classifying a hospital in a town of 10,000 inhabitants well located. The Committee has been especially lenient in classifying these remote hospitals.

Just as our Nebraska villages are passing from country towns into cities, so are the hospitals in the same transitional stage from those controlled and manipulated primarily for private financial gain and convenience, to hospitals administered chiefly from the standpoint of medical science and community interest. The almost universal lack of staff organization, adequate laboratories, workable record systems, and investigative effort, is the outgrowth of the small rural hospital system. The fact that the 1500 hospital beds in Omaha are divided among eighteen small hospitals attests to the persisting influence of the rural medical mind.

2. The distribution of wealth. It is a well known fact that the greater the distribution of wealth, the smaller is the sum total of bequests. The wealth of Nebraska is still in many hands. Nebraska has no very wealthy men. Its occasional millionaire is a relatively young man who is not yet ready to transfer his money to endowments or to die and leave it to charities. The fortunes are in the making, not in the spending. In this state, there have been only two individual bequests of over $100,000.00 to a hospital, Count Creighton to the St. Joseph's Memorial in Omaha and Mr. Lanning to the Mary Lanning Memorial in Hastings. Therefore, our hospitals have been underfinanced either from dependence on wretchedly small bequests or on capital looking for interest or dividends. Nearly all of the hospitals in Omaha have been financed at least in part, by loans whose interest and principal have been paid out of the earnings of the hospital. Such a system cannot provide at the same time for adequate hospital care and scientific investigative work, either on the patient or on disease problems. Our hospitals have so far functioned largely as hostelries in which patients recover from surgical wounds, for as such they can be operated cheaply and can either pay dividends or construct themselves out of their earnings.

In classifying the hospitals applying for interns, your Committee has only considered two hospitals as properly organized at the present time to give an adequate internship. A considerable number have been classified as B minus, B, and B plus, as being available raw material which might be developed into Class A hospitals.

Recommendations. 1. Patience with the evolutionary processes which will gradually take Nebraska hospitals out of the one-man or small-coterie control for private gain and pass them over to staffs to be administered for the scientific care of the sick and for investigative purposes.

2. The supplying the lay directors and hospital staffs with reprints and literature dealing with the purposes, necessities and management of the modern hospital.

3. A permanent state committee of forward-looking physicians, in close touch with the Council on Medical Education and the National Hospital Associations, to whose members hospital boards may go with their problems for advice and instruction.

Action along the line of the last two recommendations will expedite and facilitate much, the evolutionary processes already at work."

The Committee wishes to take this opportunity to thank the hospitals of the state for their willing aid to the Committee in obtaining accurate and truthful data in regard to the respective hospitals. The Committee desires to thank members of the profession throughout the state who made individual inspections of the local hospitals and who were instrumental in gathering data on the various hospitals. The Committee is convinced that much good will ultimately be derived and progress will result from this campaign for hospital standardization which is being carried on under the direction of the Council on Medical Education of the American Medical Association.

Respectfully submitted,
A. D. Dunn,
Irving S. Cutter,
J. Stanley Welch.

General Wood and A Department of Health.

In a speech recently before a body of physicians and surgeons at Battle Creek, General Wood advocated the establishment of a department of health with a medical man at its head as a member of the cabinet.

"What we need in this country," said General Wood, "is a sound national department of public health, a health bureau with a medical man at the head of it as a member of the cabinet. It doesn't make any difference who establishes it. It is a thing that is bound to be done. Our public health service is now scattered through a dozen different departments under as many different heads. What we need is one centralized department, nation wide in scope, to take care of all national problems of health and sanitation.

"The average layman doesn't realize what great advances have been made in the medical profession in the past few years. I do not suppose in any war in history, medicine and surgery have done as much as they have in the late war. We have maintained millions of men under conditions which fifty years ago would have meant absolute and certain death. Men living in the trenches and under ground, in the mud and muck, the ground polluted by all those things which come from varying thousands of men, and thousands upon thousands living there for months, polluted in spite of all you could do, have been brought out healthy, strong and wonderfully sturdy looking troops. That was the work of the medical profession, and through this war you have had added to the sum total of human work of a beneficient character, more perhaps than has been added in many, many years before. You have learned how to control disease and to accomplish things.

"You can do a great deal under the dramatic stimulus of war, just as we did in Cuba. There we had to rid the army of yellow fever and so great was the pressure that we were justified in trying out our theories upon human beings who volunteered, and fortunately only one or two of them died. Out of that however, came the control of yellow fever and the control of malaria. The British had given us the first experimental work in that direction and then came the work of that wonderful American commission, Walter Reed, Lazear and Carroll on yellow fever and its control. That commission saved us more lives and money every year than the war cost us and it is a possession which is everlasting. It has aided in making the tropics safe for white people for all time.

"Then again we took hold of the Panama Canal, and it was built on the sanitary foundation laid in Cuba. The work of Walter Reed and his associates in Cuba made the work of Goethals and his associates in Panama possible. DeLesseps and his French associates were just as good engineers as we were; they were quite as resourceful and just as brave. We have no monopoly on any of those qualities, but they could not build the canal because they could not stand the terrific death rate. General Goethals, the engineer, went hand in hand with General Gorgas, the sanitary expert, who had had his training in Cuba, and there laid, as I said, the foundation on which the Panama Canal was built.

"The sanitary methods of the medical profession have worked tremendous benefits for humanity. In fact it was the work of medical men in very large part which made it possible to maintain a fighting force on the lines."

Opposition to Compulsory Health Insurance.

The following resolution was passed by the Medical Association of the Greater City of New York at the regular meeting held January 19, 1920:

Preamble to the resolution: There is now going on in this State a movement to secure legislative enactments establishing compulsory health insurance to the wage-earning class. Such legislation appears undesirable and pernicious for many reasons, and especially for the following:

Compulsory health insurance is contrary to the fundamental principles of Americanism, encouraging class consciousness and being essentially socialistic and destructive of that individualism which is necessary for best national development. If the medical profession, whose members are naturally highly individualistic, can be socialized, there is no limit to the extent to which socialism may be carried in this country. The adoption of compulsory health insurance would be equivalent to the acceptance of socialism as a universal dogma.

Compulsory health insurance would substitute for the medical care and treatment now received by the wage-earning class, medical care and treatment of an inferior character, thereby doing a positive injury to that class.

Compulsory health insurance would also injure the wage-earning class by practically depriving them of the benefit of the personal relation between patient and physician, the great value of which is universally recognized, both in regard to its effect on the character of medical treatment which patient receives and on the patient's peace of mind.

Compulsory health insurance compels citizens to invest their savings in a certain way, and it fixes the remuneration of a class of special workers (physicians, dentists and nurses) without their consent.

Compulsory health insurance would practically deprive the wage-earning class of the free choice of their medical attendant.

Compulsory health insurance would impose on the wage-earning class the annoyance of extensive inquisition into their private affairs by government officers and agents.

Compulsory health insurance would impose a heavy financial burden on the community.

Compulsory health insurance would damage the medical profession both morally and materially. It would change the character of the occupation of those who participated in it from that of a learned and noble profession, which to a considerable extent is its own reward for hardships and poor financial returns, to a poorly paid, poorly esteemed trade characterized by drudgery and routinism and it would as a preliminary measure, confiscate what is of the nature of property, viz., the medical practices of the physicians, to acquire which they have in many cases worked for years, and from which they derive their incomes.

Compulsory health insurance would lower the general standard of medical practice and the personal standard of the medical profession.

Compulsory health insurance would be a potent factor in checking the advance of medical science.

Compulsory health insurance, by making the profession less attractive, would drive many now practising it into other occupations and would discourage many from taking it up.

Compulsory health insurance would invite malingering and idleness.

Compulsory health insurance has proved a comparative failure in Germany and Austria where it has been in existence for a generation, and where the character of the people and of the institutions make the field more favorable for it than the character of the American people and institutions. It has also proved far more satisfactory in England.

In view of the facts herewith mentioned, Be It Resolved, that The Medical Association of the Greater City of New York is thoroughly convinced that compulsory health insurance as we now understand it is both undesirable and pernicious, and that legislation to establish it should be and hereby is condemned absolutely, without reserve.—New York Medical Record.

"One of the most disastrous results of the coming of American brewers into China is not that they may make heavy investments, but that Chinese capitalists seeing the opportunity for making fortunes in the brewery business, will themselves establish breweries, employing the natives who were trained in American-owned breweries.

It will be remembered that originally opium was imported into China by the British, who made enormous profits from its sale. And when the Chinese Emperor sought to prohibit the importation of opium he was forced into a treaty with England which bound China not to interfere with nor limit the introduction of Indian opium into China. But rather than have all the profit in this trade go to the English the Chinese government removed its restriction on the production of opium, and the growth of the poppy became a common employment in China.

It is said that finally six-seventh of the opium consumed in China was home-grown. In 1900 the Chinese were using seventy times as much opium as they used in 1800, and it is estimated that there were 25,000,000 smokers. This must have embraced nearly one-half the adult population.

One can imagine that if the brewing business should be taken over by the Chinese themselves, it might easily spread throughout the entire republic—although the probabilities are that the Americans who introduced it would themselves be put out of business, just as all other foreigners are gradually being forced out by the slogan: "China for the Chinese."

But when the government realizes the evils of the use of beer as it did the evils of the opium habit—not only upon individuals but upon the life and power of the nation as a whole, it will no doubt drive out all the breweries, whether they are owned by natives or foreigners.

A chief danger in introducing an intoxicant like beer into the life of the Chinese is the fact that the fearful monotony and destitution of their lives will make them easy victims, for beer will undoubtedly produce a sensation which, while not just like that of opium, nevertheless will deaden their senses and stupify their brains. It is easily conceivable that the beer habit may become as strong as the opium habit, and for much the same reason—the low economic and social conditions of the poor. In the United States the workingmen who spend most money for beer are not those who work short hours and earn large wages, but those who work long hours and receive small pay."—World Outlook.

ABOUT THE DOCTOR.

Dr. A. L. Cooper of Omaha has located at Morrill.

Dr. C. L. Davidson has moved from Pender to Newport.

The salary of the city physician of Beatrice has been fixed at $600.

Dr. H. A. Johnson of Tekamah was operated on for appendicitis in March.

Dr. Charles H. Hargens of Hot Springs, S. D., was a recent caller in Omaha.

Dr. L. M. Shaw of Osceola called in the Journal office the first part of April.

Dr. Clarence Minnick of Curtis, Neb., was a recent caller at the Journal office.

Dr. Samuel A. Campbell of Malvern, Ia., was a recent caller at the Journal office.

Dr. C. W. Walden of Beatrice is a candidate for City Commissioner of that city.

The Lincoln Elks purpose furnishing a room in the forthcoming Lincoln City Hospital.

Dr. O. L. Erickson of Edgar has sold his business location to Dr. F. D. Voigt of Davenport.

Dr. R. D. Balcom of Silver Creek was married March 16th to Mrs. Harriet Little of Clarks.

Dr. A. C. Walters has located in Winnetoon and taken the offices formerly occupied by Dr. Morrow.

Dr. A. J. Griot of St. Louis has decided to limit his practice to eye, ear, nose and throat work in Chadron.

Drs. Chas. E. Slagle of Alliance and James M. Willis of Arapahoe were recent callers in the Journal office.

Dr. Howard B. Hamilton is doing post-graduate work in the Washington University Medical Department, St. Louis, Mo.

Dr. E. P. Murdock of Ogallala has sold his residence property and good will to Dr. S. O. Pitts who will take up the practice.

A Red Cross nurse in France, Miss Marguerite Corthes of Norfolk, drew a claim in the Torrington, Wyoming, land drawing recently.

Dr. Charles S. James and J. Calvin Davis of Omaha have formed a partnership for the practice of eye, ear, nose and throat work.

A personal injury suit growing out of an automobile and bicycle collision has been filed in the courts of Grand Island against Dr. Charles A. Flippin.

Dr. R. Woods of Haigler, has been succeeded by Dr. W. F. Deal of St. Francis. Dr. Wood in turn succeeds to the practice of Dr. J. F. Premer of Benkelman.

Dr. Ella P. Sumner, for twenty-five years a practicing physician at Bloomington, has moved to Hastings to take up the practice of the late Dr. Pearson.

Dr. W. R. Waggener of Silver Creek has retired from active practice and will move to Denver. He will devote himself to looking after his land interests in Colorado.

Dr. J. L. Paine has moved from Oconto to Unadilla and Dr. John C. Wade who left Oconto to go in the army medical service has returned to his former field.

Dr. F. X. Rudloff, formerly Assistant Pathologist of University Hospital, Omaha, has become associated with Drs. Salter and Brush of the Norfolk General Hospital.

Dr. Granville Ryan of Des Moines declares the smoking habit is growing among girls. He issues a warning note as to the bad effect of this habit on the coming generation.

Web Kellogg, a wealthy ranchman of O'Neill proposes to build a modern hospital for the O'Neill community, said hospital to have eighty private rooms and no ward accommodations.

Dr. J. G. Pace of Lincoln has been appointed medical director and superintendent of the Woodmen Tuberculosis Sanitarium, Colorado Springs, succeeding Dr. J. A. Rutledge, deceased.

Dr. W. B. Kern has resigned as superintendent of the Norwalk State Hospital, Los Angeles, Calif., to private practice and the superintendency of a sanitarium for the care and treatment of nervous and mental disorders.

An interesting statement comes from St. Joseph's Hospital, Omaha. During the forty years of its existence over 85,000 patients were treated, 20,000 of which were charity cases. Over 5,000 patients were admitted during 1919.

Dr. Olga Stastny of Omaha has been decorated by the French government for service with the American Women's Hospital in France. She has gone to Czecho-Slovakia where she is to be engaged in making a medical survey.

Dr. Nicholas M. Alter, former assistant to Prof. Lenhossek and also Pathologist to Howard Kelly, Baltimore, Md., for a period of over five years, has associated himself with the Blumberg Biologic Laboratories of Omaha, Neb.

Dr. D. T. Quigley of Omaha has purchased the Birchmont Hospital at 34th and Farnam streets. He has changed the name to the Radium Hospital and will conduct it for the treatment of cases of cancer, tumors and pre-cancerous conditions.

The Surgeon-General declares the pay of the army medical service too low to attract the men needed to care for the 12,000 disabled men left in hospitals as a result of the war. Few medical men enlist, now that there is peace and men in the regular army medical corps have resigned to the extent of ten percent of the entire corps.

Dr. Edgar L. Holyoke was fined $25 and costs in Justice W. A. Hawes' court Friday morning after pleading guilty to a charge of failure to report a case of venereal disease to the state public welfare department. The 1919 legislature passed a law which requires that all venereal cases shall be reported by physicians to the state welfare department. He paid his fine.

The needs of isolated communities and the efforts put forth to get physicians to locate in such places is well illustrated in the case of Arthur, county seat of Arthur county. A community meeting was held at the court house and an earnest call sent to a physician formerly resident of the place. Dr. G. W. Briggs was the physician. He returned to his former field.

To all physicians who served the federal government during the war: An association of Medical Veterans of the World War was organized at Atlantic City, in June, 1919, at the time of the meeting of the American Medical Association, and a constitution and by-laws adopted. About 2800 physicians have already joined and all others who are eligible are invited to join the society.

SOCIETY NOTES.

A meeting of the Northwestern Nebraska Medical Society was held at O'Neill, Neb., on March 16, 1920. The Journal office assumes the meeting was interesting and instructive, but cannot speak from an official report.

The Nemaha County Medical Society met in Auburn, April 2nd with 17 physicians present. Dr. Sachs of Omaha presented a paper on the subject of goiter that elicited interesting and instructive discussion. Dr. I. H. Dillon of the State Board of Health was present. He recited some interesting and important facts relative to health work. Luncheon was served by the wives of the doctors, and fraternal greetings enhanced the value of the meeting.

The annual meeting of the Eye, Ear, Nose and Throat section of the Nebraska State Medical Association will be held at the University Club, Omaha, Monday night, May 24, 1920. Dinner 6:30 p. m.

The following program will be presented:

Our Responsibilities to the Adult Blind, Dr. Jas. M. Patton, Omaha.

Mastoiditis—The Use of the Roentgenogram as an Aid to Diagnosis and Operative Procedure, Dr. J. J. Hompes, Lincoln.

Focal Infections of the Nose and Throat—Dr. E. C. Foote, Hastings.

DEATHS.

Dr. S. O. Whaley of Osceola, a retired physician, a pioneer of Polk county, graduate of the University of Michigan, died March 1st.

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What Everybody Ought to Know About The X-ray.

Dr. Jos. Colt Bloodgood, Johns Hopkins University.

Dr. J. P. Lord introducing Dr. Bloodgood, said:

"Ladies and Gentlemen: It was twenty-five years ago this year that Roentgen discovered the X-ray. At first it was a curiosity and sort of a plaything in science, but in more recent years it has become of widespread use. A specialty has grown up from the use of this great modern discovery. It has been found that the practice of medicine and surgery finds in the X-ray an aid.

"We have an Omaha Roentgen Ray society. It is this society under whose auspices this luncheon is given. We find that this society, comprising a very considerable number of specialists here, has attracted to itself at a meeting being held in the Fontenelle Hotel, men interested in this specialty from all over this section of the country.

"I once heard a famous divine say, and rather regretfully, in speaking to doctors, that the doctor saw his patient in undress of body, as well as undress of soul. These Roentgen Ray fellows actually bare your very bones! Rather uncanny, isn't it?

"Everybody is interested in the X-ray because it is such a wonderful thing. It has become useful to those who are most expert in diagnosis. One of the most expert men in surgical diagnosis in this country, and one of the acknowledged authorities of the world, is with us today. He is an outstanding representative of one of the half dozen largest universities of the United States—the Johns Hopkins Hospital and University. He has come half way across the continent to renew his acquaintance with the Omaha profession. He is not a stranger to us. He has been here on other occasions. He is held very dear by the profession of Omaha, and the profession of Omaha is just the same as the profession of the rest of this country, and indeed, of the world. They hold the speaker of today in highest regard. The profession has held him in most high esteem more especially of recent years, not only because of his unselfish devotion to the cause of preventive medicine, but more particularly for the campaign of education of the people in regard to the cause and prevention of cancer.

"Today Dr. Bloodgood will address us on the subject, 'What Everybody Ought to Know About the X-ray.' I have great pleasure in presenting Dr. Bloodgood, of Johns Hopkins University."

Dr. Bloodgood's Address Delivered at a Luncheon at the Omaha Chamber of Commerce

March 27, 1920.

Ladies and Gentlemen: I feel very much like asking you to adjourn. Many years ago in Atlantic City, at a meeting of one of the sections of medicine, there was an article on arteriosclerosis, and the object of the paper read on that subject was to prove that alcohol had nothing to do with the hardening of the arteries. When the man had finished his paper, Dr. Osler was asked to discuss it. His discussion was, "Boys, let's go out and take a drink."

In coming up here from the railroad station this morning, I saw "Huckleberry Finn," and I feel like saying to you, "Boys and girls, let's go out and see 'Huckleberry Finn.'" But you have asked me here.

Of course it sounds well to say "He came half way across the continent;" but it only takes a day and two nights, and I had the opportunity to read the life of Buffalo Bill, and that was worth coming across the continent for.

Perhaps there is even a greater reason why this has been worth while to me. When you are asked to make an address like this one today, you are stimulated to make a reinvestigation; and the knowledge that I was coming out again to Omaha to talk to the progressive men in this district—roentgenologists, surgeons and dentists—was a great stimulus to a hard piece of work which I will talk to you about tonight.

But when the invitation came to make these short remarks where there would be others than members of the medical profession in the audience, I felt there was an opportunity to say something to the public about what everyone should know about the X-ray; because we have learned what good we have done by telling the public something about cancer. There is no question in my mind that we have saved more lives in our propaganda of giving the people some simple information in regard to cancer, than we have by any development of surgical technique in its treatment.

Now it is quite possible that your community is better educated in regard to the X-ray than my community. You have an Omaha Roentgen Ray Society. We have no such society, outside of the surgical section of the American Medical Association, and the American Roentgen Society. I think that of itself is an indication of far greater progress here than with us on the eastern shore.

I have a right, after the introduction by your Chairman, to say a little something along that line to you. In fact, we rather look to this section of the country for progress. Not many years ago a Committee in Boston connected with Harvard University raised an educational problem in Harvard, and they asked a certain Professor of Philosophy to act on the Committee. They were going to meet in Boston. He said, "I will not act, but I will give you a bit of advice: Go west, and you will get some new ideas."

I am confident that even the doctors themselves need to know that the most essential thing in the cure of disease is examination first. The days when doctors treated without examination first are over. Not many years ago there may have been excuse for that, because we did not have, as we have today, the instruments of precision. I remember Weir Mitchell's great article on "The Progress of Medicine," delivered before the X-ray was discovered. Yet Laennec discovered the methods of physical examination of the chest, and I think you will all agree this war demonstrated that the average man in medicine had not taken seriously Laennec's work. The ordinary physical examination of the chest was neglected. I think you must feel gratitude to the government in what you saw today, because a moving picture like that must make a lasting impression upon all of us of the importance of a physical examination of the chest. It is said for years doctors tried to treat the public secretively. That day is over. The ordinary individual, no matter what his education may have been, as far as other things are concerned, if left to himself will seek the advice of a doctor for an examination at a period when, even with the instruments of precision by which we may find out what the trouble is, we are not in a position to offer much hope for a cure. Now that we have all these things, if we do not go to the public and tell them about them, we will have no opportunity to use them early.

Rheumatism is a term which used to mean there were pains somewhere near a bone or joint. In my office I have a baking apparatus for a joint. Someone asked what I did with it. I ought to throw it away. I have not used it for five years. Things to treat joints are discarded. When a patient comes in with this trouble, we try to remove the cause; and if done in time, the joint will take care of itself. Rheumatism is simply some trouble in some part of the body due to the fact that something has gotten in that doesn't belong there—infection, bugs, foods, exposure to cold, or injury—and the least important of all is injury.

So that when one comes to you with pain anywhere, don't for a moment allow yourselves to treat the pain. Find out the cause, and the X-ray is useful in showing some focus in the region of the teeth; to the nose and throat man in finding something in the sinuses of the skull. I believe if people are educated, it will sweep rheumatism from the face of the globe. It is due to bugs.

It has also helped to remind us that some pains in the region of joints are due to food—not the gout you are familiar with when anybody knows he has it—but vague pains. One of the most instructive observations has been a member of my own family. I have a dear old aunt of seventy-five. Seven years ago she had pain in her back and sent for me. I said, "I will have to X-ray your back."

"Indeed you won't! I will have none of your new-fangled idea!" So it was not done.

Not long ago she could not sleep at night. I was out of town, and the doctor left some medicine. She did not take it, but went to an X-ray man and had her teeth examined. There's the effect of education in regard to the early use of the X-ray. In her case the X-ray and all examinations were negative, as I dine at her house now and then and know the cause. We besought her to eat less sweets. So you must remember there is a form of rheumatism that has nothing to do with bugs, and even at the present time has not been influenced by the high cost of living.

I do not know how it is with you, but with us, tuberculosis of bones and joints and glands that cripple so many of our children, even among the well-to-do, is disturbing. When I was a resident at Johns Hopkins, most of my work was taking out tuberculous glands and removing tuberculous joints. I doubt if in my clinic today we average two operations for tuberculous glands a year, or two resections of a tuberculous joint. That is the result of the education of the people in preventive medicine, largely due to the American Society for the Control of Tuberculosis, to the removal of tonsils and adenoids, to the care of the nose and throat, the chief portal through which the bacilli reach the bone, to the inspection of school children, and to the fact that our children get better milk. I trust, even in this country, you boil your milk. It is now the consensus of opinion milk is a food to be cooked.

A very important thing for the public to know is that when a child or an adult has a pain in a single bone or joint, or a little limp, the first thing to do is to take an X-ray of that bone. As I am going to tell the doctors tonight, our percentage of cures of cancer of the bone, treated in twenty-five years past upon late examination and treatment, is less than 6 per cent; and it is very common in young children.

I cannot but tell this story to emphasize the point of view. A friend of mine telegraphed me: "My boy has stepped on a rusty nail. What shall I do?"

I wired back, "Give the antitoxin of tetanus."

She replied, "The doctor said it is not necessary. What shall I do?"

"Get another doctor, and keep on until you find one who gives the antitoxin," I answered. And the doctor who said it was not necessary was my classmate. He has not kept up.

My boy stepped on a rusty nail the other day, and greeted me with, "Father, I have telephoned for the antitoxin. Do you want to give it to me now?"

That's a true story, and he did not like it, either.

A few months ago I spoke in Altoona, Pennsylvania, at a banquet something like this, and emphasized the importance of having an X-ray taken if a child even limped. Within two days I received an X-ray from Altoona of the earliest stage of a bone cyst I have ever seen. I wrote the doctor and said, "This is an early case. How did you get it?"

"The father of the child was at the banquet, and he turned up the next day and insisted upon my taking an X-ray of his child."

The public is chiefly at fault in not coming early. When we speak about these examinations they want to put them off, and say they are costly. But they are essential. There is one thing about the practice of medicine that Charles Mayo said: "The war has come, but people can still get good medicine for nothing."

There isn't a place in this country where a person can't get a good examination, free. Those who can afford it must be educated to pay for it, just as they pay $1.50 for candy, and eat more than they should. It is a question of education. It isn't because they are stingy. If you have been in the habit of paying five cents a quart for milk, it takes a little time to get used to paying twenty cents. I remember sitting at a table in a club room and hearing a man using language that I can't repeat here about milk at twenty cents, which the doctor said his chil must have. He declared it was perfectly outrageous. Yet he was smoking a twenty-five cent cigar, and drinking a twenty-cent cocktail. He was not willing to pay twenty cents a quart for milk because he did not think it was worth it. There is not an examination of precision made that is not worth the cost.

So remember that the key-word to modern medicine is to bring our message to the public so they will know. The essential feature of the eradication of disease when it is started, is immediate treatment; and immediate treatment depends upon the patient's coming at once; and any successful treatment depends upon a thorough examination first; and one of our great instruments of precision is the X-ray.

The Peritoneoscope in Diagnosis of Diseases of the Abdomen.

B. H. Orndoff, M. D., Chicago, Ill.

Members of the Omaha Roentgen Society: I wish to have you understand a method of examining the peritoneum through an instrument by direct visualization with a lamp and lens system. My attention was called first to the possibilities of this work after the development of pneumoperitoneum during 1919. I think every one who has been doing that class of work has undoubtedly had an idea that if we had an instrument whereby we could make a direct visual examination it would be of some help in the final diagnosis. In our efforts to procure such an instrument, we began our work with animal experiments in which we used the lamp and lens cystoscope. We were about at the point of attempting to do this work in the human with a roentgenoscope, when I learned of a fluoroscope devised by Jacobaeus of Stockholm, Sweden. So with some little work on animals, we took up the method in the human.

The instrument was devised for the thorax, and some modifications were needed in order to facilitate examination in the peritoneum, inasmuch as the thickness of the thoracic walls is less than the abdominal.

In speaking of the literature, I would say the only record I have been able to find at this time of peritoneoscopy was by Jacobaeus, who devised this instrument. He reported seventeen cases in 1910, beginning his work in 1909. Yet three of the cases were cases of ascites to begin with, in which the fluid was withdrawn, or an examination made directly in the fluid. In some the fluid was replaced by air. He injected the air to take up the same space as the fluid, and made his observations through the air. He had a great deal of trouble in getting a proper instrument, but finally, was able to get the present instrument which we have for our work.

The purpose of this paper is to deal with the clinical aspect of peritoneoscopy, and I hope to dwell mainly on the application of the instrument, and then to speak of the clinical application, with a brief summary.

The first thing we might consider would be the selection of the site for inserting the instrument through the abdominal wall. One point is, the radius of observation of the instrument is limited to a given distance from the point where you enter. If you wish to extend the examination, it will be necessary to select a site where the radius of the instrument will cover the entire peritoneal cavity. If you wish to carry out an examination directed to one given area, it will be necessary only to enter a site most adapted to this region. As a rule, we select a site within two to five cm. of the umbilicus, and with an instrument properly adapted to the work, we can then cover approximately every portion of the peritoneal cavity.

The next is the sterilization of the field for inserting the instrument. The method we have used for this has not been elaborate. I think it is not necessary to do any special preparation of the patient, other than to cover the skin thoroughly with an antiseptic solution. We have used a 50 per cent solution of lysol and glycerine. Covering the area with a wooden applicator, it will carry considerable of this solution, and by making direct and firm pressure to the abdomen for some little time, and leaving a heavy layer of this solution, the instrument to be inserted through that layer, has been found sufficient. This wooden applicator makes local anaesthesia by pressure. The anesthetic solution is introduced afterward.

A needle of approximately 20 gauge, and 5 cm. in length, is passed into the skin and a small amount of the solution left, and with the needle at right angles to the surface of the abdomen, we go down through the abdominal wall, feeling sure of our location by the resistance we meet. The muscular tissue has a different resistance from the fascia. It is not necessary to enter the peritoneum, but leaving the solution against it when we feel the resistance against the needle. In the rest of the work, we try to follow the course followed by the solution. We have used novocaine, from 1 to 4 per cent. By palpation we avoid induration in the abdominal wall.

After the site is selected and the solution given, the next step is to produce a pneumoperitoneum. This is done by the apparatus you may have. The needle which enters the abdominal wall is the ordinary intraspinal needle. After the pneumoperitoneum has been produced to an extent of two to ten millimeters of mercury, perhaps, then the needle is withdrawn and we are ready to insert the peritoneoscope.

The patient should be in a horizontal position, and at the present time we are using an ordinary cart before an upright screen. We are able to see laterally through the patient in a horizontal plane anywhere the patient is lying. We can see the distance of the elevation of the abdominal wall very nicely.

The peritoneoscope is ready for insertion. Generally speaking, we consider there are four parts: The trocar, the cannula, the tube and hose connection, and the lamp and lens system. The cannula consists of a tube with an automatic valve attachment so that it will not let the air pass out, and yet opens when an object is to be passed through it. Another part is the tube and hose connection, which serves the purpose of allowing us to open the automatic valve and insert more oxygen, and let it out. The fourth part is the lamp and lens system, which also passes through the cannula and the automatic valve. It is well to have different lengths. I think it is well to have one shorter, and one longer, than 20 cm. One of 35 cm. is sufficient so that we can go up to the region of the gall bladder, or the other way to parts of the pelvis.

For inserting the peritoneoscope, we have a little scalpel which we have shaped nicely for this instrument. The area where we went through the abdominal wall is again covered with the antiseptic solution, and an incision made. It makes an incision so that it does not take any great amount of pressure to pass this part of the instrument through. After we have passed through the skin, you can press the abdominal wall firmly and carefully enter the peritoneal cavity. This is done under the screen, and by the resistance there is no question about determining about the time it will come to the peritoneum. Then you will see it pushing the peritoneum down, and finally you see this instrument slip through.

We withdraw the cannula and pass it in up to this portion of the instrument where it remains throughout the operation.

We do not make any special preparation of our hands surgically, but the operation is carried out in the same manner as any other.

The instrument is ready for registering the air. We turn the patient in various positions until we find a field we wish to examine; or if we want to make a general examination, more oxygen is inserted or let out until we get the right distension of the peritoneal cavity. Sometimes it has to be redistended during the operation.

We insert the lamp and lens system, and then we are ready for the general observation.

This is a long instrument to be inside the peritoneal cavity, and it is well to help direct yourself to the field by the use of the X-ray. If there were a mass of adhesions and you were not using the X-ray, it would be a difficult matter to go carefully and not to encounter adhesions, and you might do damage with the end of the instrument.

After the instrument is inserted, observation made with the patient in various positions, with the feet or shoulders elevated, or turned over on the table, in order to have the air which comes to the top move the abdominal viscera out of the way so that we can examine the part in question.

After the examination is over, the question comes up of what we are able to see from the clinical standpoint. There is where we encounter the real difficulty. The peritoneum is a membrane that is seldom diseased, and the organs it covers are usually the ones involved. It is not unusual to find that a very badly diseased organ is covered by a normal peritoneum. So it comes to be a matter of judgment as to how much we can determine about the pathology, if it is a normal peritoneum.

I will mention a few of the conditions where we feel this method offers some findings of value in diagnosis. We observe two classes: the localized tubercular peritonitis, and the general, or diffuse. The local peritonitis has been found in the region of the pelvic organs. The normal peritoneum appears shiny and has a glossy appearance. The surface membrane seems transparent, and you can see the blood vessels, even to the minute ones. But in the case of an inflammatory membrane, the clear layer is lost and the smaller blood vessels are lost. The membrane, instead of appearing clear, is opaque, lighter in color, and sometimes we find the tubercles which appear slightly elevated above the surface, greyish-white in color, and varying in size. At 2 cm. distance, the instrument shows the image of normal size.

The next clinical condition is hydroperitoneum. This method is not to be recommended in this. Hemoperitoneum I think lends itself to this method, and very minute quantities of blood and the mottled color of the blood will be at once discerned, and only a slight evidence, or no evidence of gloss. I think we can diagnose this condition with a high degree of certainty.

In post-operative shock where there is question of abdominal hemorrhage, in one case we were able to pass the instrument through the wound where the incision had been made without disturbing any of the sutures. I think this would generally be well. We encountered some difficulty in finding the opening through the peritoneum. Through the deep fascia we had no difficulty.

The next problem would be extra-uterine pregnancy. We lack experience except in two cases in which we were able to give confirmatory data which was valuable. In one case the abdomen was filled with blood to such an extent we could offer very little data with certainty. There was much less blood in the gastric region. In the other case there were a few well formed clots, but the oviduct could be located and the hemorrhage indicated it was the source of rupture and damage, and we were sure our data aided in the diagnosis. In another there was present a small water cyst filled with blood, indicating disintegrating blood. So far chronic cases have been observed. We have had forty-two cases for this examination.

Ovarian cyst we recorded twenty-eight times. That was from ovaries almost normal in size, with shiny surfaces that were different in appearance from the rest of the ovary. These varied from normal up to good sized ovarian cysts. We examined one of a large ovarian cyst of which we have a lantern slide. It is possible we will be able to give data which will be of material aid in differentiating the various cysts from fibroid tumors or pregnancy.

Another point was of surprising value: the illumination of the abdominal wall. When one places a lamp beneath the umbilicus, it illuminates very nicely.

After operation, where the wound is slightly gaping, one can turn the instrument around where the flesh does not gap, and avoid the possibility of giving rise to a postoperative hernia. You can stick the instrument right in.

Another feature is the insertion of the cystoscope into bladder, and at the same time filling the peritoneum with oxygen. By passing the lamp around, one can transilluminate the bladder wall.

Five Years Experience in Treatment of Cancer With the Roentgen Ray.*

A. P. Overgaard, M. D., Omaha.

Upon the introduction of the Coolidge tube, early in 1914, we began to use aluminum and sole leather to filter out the alpha and beta rays which had been causing burns. Deeper penetration was sought and new transformers were built especially for deep therapy work. These gave us a ten-inch spark instead of the old seven-inch.

This added penetration was the most important development of the new tube for by careful cross-fire methods we could now deliver a full dose of rays where we wanted them.

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*Read before Omaha Roentgen Society, March 27, 1920.

Today I am using a nine and one-half inch back-up spark with five millimeters of aluminum and sole leather at a focal distance of eight inches and run six milliamperes current. This gives an erythema dose in eight minutes.

As a rule, we give three areas in one day and require four or five days to cover a chest thoroughly. After such a complete ray, the patient is sent home for three weeks with order to rest and to keep on a light diet. She should, preferably, be in bed for a week after each series.

This system of applying the ray to a postoperative breast cancer case is repeated at least three times and if any signs of metastasis are then found, a fourth or fifth series is given. Then the patient is ordered to report at least once every three months for two years for an examination by fluoroscope to check up the lungs and mediastinum.

It is practically impossible to remove all the glands in the tissues by operation. These missed glands cause recurrence. Every cancer cell not removed is bound to grow again. So we need to be very thorough in our treatment. To produce the required effect in some cases enormous doses must be used.

Rare cases may require less. It depends on the patient. The ray has a different effect on each one. I have found that a few could take two or three times an erythema dose and get only a slight reaction. Others get a marked reaction from an eight minute dose.

Iodine used on the skin before the application of the ray will produce a severe reaction at once. Therefore it should never be used when a treatment is to be given. Always bear this in mind when a case presents itself for treatment immediately after operation.

The question of reaction is a serious phase of the practice of deep therapy. Constitutional effects must be recognized and then alleviated when possible. Boclere in a discussion of the effects of roentgen and radiotherapy uses the term "Penetrating-Irradiations-Sickness" to include disturbances caused by the two agents, since they are practically the same, although symptoms vary in patients and at different times in the same patient.

Sickness produced by deep roentgen therapy ranges from general discomfort and languor lasting a few minutes or a few days, to loss of appetite and violent vomiting with nausea lasting as long as two weeks. These symptoms may come on at once or not until the next day. Women suffer more from this cause than men.

Reasons for the sickness are still obscure. However, the more completely gases are eliminated from the treatment room and absolutely pure, fresh air provided, the more the symptoms are reduced. In our office, a special fan is installed in the wall to exhaust the impure air. The patient's face is covered with a leaded rubber apron as is also the chest and abdomen not undergoing treatment at the time.

The inhalation of gases produced by the action of high tension wires upon the air must be largely responsible for the constitutional by-effects of the ray since the operator and his assistants are often similarly affected. However, this hypothesis is denied by Jones, Ewing and others who believe that nausea results only when the breast or the lower part of the chest is treated with large doses. Roth attributes the by-effects to an irritation of the vagus nerve.

The feeling of dryness in the mouth, excessive thirst, the presence of a brassy taste, and the change in the flavor of foods indicate that the salivary glands and others in their region are affected. The X-rays have been found also to affect the ganglionic sensory nervous system which might account in part for the condition as it resembles drunkenness or sea-sickness.

Such reflex symptoms are known to occur through the vascular system when arterial blood becomes loaded with a substance such as tartar emetic. The novices first cigar may thus produce nausea and vomiting. When the sickness is delayed until the day after the treatment, by-effects may be the result of the formation of emetic substances gradually passing into the blood.

Whatever its cause, the penetrating-irradiations-sickness prevails in spite of all precautions and will probably increase with the increased use of the Coolidge tube. The intenser radiation and greater penetration of these otherwise superior tubes and the dosage possible with them cause a much more rapid and massive cellular destruction and

No	Sex	Age	Disease and History	Date Tre't'd	Results
1	Female	53	Breast cancer, post operative	7-15	Died 4-17 of typhoid.
2	Female	35	Breast cancer, 3rd oper. in 2 years	7-15	Died 5 mo. later, general metastases.
3	Female	46	Breast cancer, post-operative	7-15	Died 4-19 apop. no recur.
4	Infant	11m	Sarcoma eye 1 month duration	7-15	Died, no improvement.
5	Female	50	Breast cancer, post operative	1-16	1-18 slight recurrence, living and well.
6	Male	27	Sarcoma of Testicles, 2nd operation 2 wks after 1st	2-16	Living.
7	Male	37	Sarcoma lip, post-operative		Living
8	Female	34	Breast cancer, post-operative	4-16	Died 6-17 metastases.
9	Female	62	Breast cancer, post-operative	5-16	Living.
10	Female	50	Sarcoma of sternum, several yrs. duration	7-16	Relieved then recurrence, died.
11	Male	72	Cancer of mouth, 3 months duration	9-16	Died.
12	Male	79	Cancer of axilla, followed operation	10-16	Died year later from recurrence in spleen.
13	Male	54	Cancer of tongue, several years duration	10-16	Died.
14	Male	76	Cancer of parotid gland, 6 months duration	11-16	Died 3-17.
15	Female	78	Cancer of breast? lump in breast, too weak for op.	11-16	Living and well.
16	Male	57	Hodgkins disease, several operations then recurrence too weak for operation	11-16	Died 1919.
17	Female	58	Cancer of breast, post-operative	11-16	Died of a fall resulting in metastases 1917.
18	Female	46	Breast cancer, post-operative several mo. before ray was used.	11-16	Died.
19	Female	42	Cancer of mouth, post-operative	11-16	Living and well.
20	Male	65	Cancer intestines, post-operative	11-16	Died 2-17.
21	Male	80	Cancer neck, post-operative two years later X-ray	11-16	Recurrent, died 2-18.
22	Female	36	Cancer axilla, 2 years duration	1-17	Recurrent, died.
23	Female	67	Epithelioma forehead, post-operative	2-17	Living.
24	Female	40	Cancer breasts and neck, post-operative, and paste used, then recurrence and X-ray used.	2-17	Living and well.
25	Female	42	Cancer breast, post-operative	2-17	Well and living.
26	Male	40	Cancer of lip X-ray	8-16	Living and well.
27	Male	75	Cancer of face, year duration	3-17	Died.
28	Female	75	Cancer of eyelid, year's duration	2-17	Living and well.
29	Male	67	Leukoplakia, years duration	3-17	No report.
30	Male	62	Cancer, metastic	3-17	Died.
31	Male	17	Cancer in ethmoid cells, 2 weeks duration, metastic	3-17	Died in 3 weeks.
32	Female	60	Epithelioma of cheek, several years duration	4-17	Living.
33	Female	37	Cancer of breast, post-operative	11-15	Living.
34	Female	52	Cancer of breast recurrence, post-operative then ray	5-17	Living.
35	Male	77	Cancer of nose, several years duration	5-17	Living.
36	Female	47	Cancer of breast, post-operative	6-17	Living.
37	Female	13	Sarcoma of sternum, 2 mos. duration then X-rayed	7-17	Living.
38	Female	55	Cancer of breast, post-operative	8-17	Died 12-17.
39	Female	49	Cancer of breast, post-operative	8-17	Living.
40	Female	60	Cancer of breast, post-operative	8-17	Died 8-18.
41	Male	44	Cancer of neck, post-operative 2 yrs. interval before recurrence, then X-ray.	9-17	No report.
42	Female	58	Cancer of breast, post-operative	10-17	Died 5-18.
43	Female	39	Cancer of breast, both breasts removed	11-17	Living.
44	Female	70	Cancer of nose, several years duration	10-17	Living.
45	Female	46	Cancer of upper gum, several years duration	10-17	Living.
46	Female	32	Cancer of breast, post-operative	10-17	Living.
47	Female	40	Cancer of both breasts, post-operative	12-17	Living.
48	Male	45	Cancer of lip, post-operative	12-17	Living.
49	Female	69	Epithelioma of face, X-ray only	12-17	Living.
50	Female	51	Cancer of breast, post-operative	12-17	Living.
51	Female	63	Epithelioma, X-ray only	1-18	Living.
52	Male	48	Epithelioma of face, X-ray only	1-18	Living.
53	Female	50	Cancer of breast, recurrence	1-18	Living.
54	Female	43	Cancer of stomach, post-operative	1-18	Dead.
55	Male	26	Cancer of stomach, post-operative	2-18	Dead.
56	Male	41	Cancer of eyelid, X-ray only	3-18	Living.
57	Male	48	Sarcoma of thigh, post-operative	3-18	Died of pneumonia.
58	Male	48	Sarcoma of axilla, post-operative recurrence	3-18	No report.
59	Female	50	Cancer of breast, post-operative	3-18	Living.
60	Female	50	Cancer of breast, post-operative recurrence	3-18	Living.
61	Female	56	Cancer of breast, operated recurrence	4-18	Living.
62	Male	43	Epithelioma of nose several years	4-18	Living.
63	Female	66	Epithelioma of nose several years	3-18	Living.
64	Female	30	Epithelioma of nose several years	5-18	Living.
65	Female	37	Cancer of nose several years	6-18	Living.

No	Sex	Age	Disease and History	Date Tre't'd	Results
66	Female	43	Cancer of breast, post-operative	6-18	Living.
67	Female	52	Suspected cancer of breast, X-ray only	6-18	Living.
68	Female	66	Cancer of breast, post-operative	6-18	Died 4-19.
69	Male	32	Sarcoma of sternum 2 months duration	8-18	Living.
70	Female	54	Cancer of thyroid post-operative	8-18	Died.
71	Female	54	Sarcoma of leg recurrence	9-18	No report.
72	Male	....	Lymphatic sarcoma of neck, post-operative	9-18	Living.
73	Female	47	Cancer of breast, post-operative	10-18	Living.
74	Female	31	Suspected cancer of breast, X-ray only	12-18	Living.
75	Male	70	Cancer of neck, post-operative	1-19	Died 4-19.
76	Male	36	Lymphatic sarcoma of neck, 1 m duration, X-ray only	2-19	Died 5-19.
77	Male	73	Cancer of lip and neck, recurrence	2-19	Died.
78	Male	62	Sarcoma of thigh X-ray only	3-19	Living.
79	Female	32	Cancer of uterus X-ray following radium	4-19	Died.
80	Male	62	Cancer of neck recurrence	5-19	No report.
81	Female	30	Cancer of stomach, several years duration	5-19	Died.
82	Male	42	Cancer of stomach, 3 years duration	5-19	Died.
83	Male	....	Cancer of neck, post-operative	6-19	Living.
84	Female	50	Cancer of breast, operated recurrence	7-19	No report.
85	Female	61	Cancer of breast, post-operative	7-19	Living.
86	Female	77	Cancer of axilla, post-operative	9-19	Died.
87	Male	43	Epithelioma of face, X-ray only	1-19	Living.
88	Male	29	Adenoma both sides of neck, X-ray only	11-19	Living.
89	Male	65	Epithelioma of face, X-ray only	11-19	Living.
90	Male	24	Sarcoma, X-ray only	11-19	Living.
91	Male	63	Cancer of jaw, post-operative	11-19	Recurrence living.

consequently greater adulteration of the blood by toxic substances.

Russel H. Boggs laments the inadequate therapy given by a large majority of roentgenologists in the postoperative treatment of carcinoma of the breast. "First," he says, "they leave many chains of lymphatics untreated. And second, while they give a physiological dose superficially, in cross-firing they employ too few portals of entry. As a result the deep tissues receive only one-third to one-seventh of a physiological dose.

Every roentgen therapeutist should make a comprehensive study of the lymphatics draining the breast before he attempts to treat mammary carcinoma. The lymphatic drainage of the breast is greater than of almost any other organ and we learn from the study of bone metastases how extensively the lymphatics become involved. From this, we realize that when we ray only the line of incision, axilla, and supraclavicular region, our treatment is very incomplete. We should never neglect to ray the internal mammary glands, since it is from these that the involvement from one breast to the other takes place.

Autopsy has shown that the liver of all internal organs is the most frequent seat of metastases and often becomes involved in quite early stages. Handley attributes this to cancerous dissemination along the lymphatics of the fascia of the thoracic wall to the epigastrium and the umbilicus, when these cells follow the lymphatics and are deposited on the surface of the liver or are carried on to the portal glands.

Next in frequency to be involved are the lungs, pleura, and glands of the mediastinum. The intercostal lymphatics are responsible here. Next come the pelvic viscera, involved in about eight percent of early cases in young patients and in about four percent of older patients. To account for the lower percentage, we again look to the lymphatics which with age undergo senile atrophy.

Overwhelming evidence proves the lymphatics to be the chief agent of cancer dissemination. In the aged and in thin patients where the vessels are smaller, the advance of metastases is less rapid. If the roentgen rays did nothing more than produce a sclerosis of the lymphatics and a reduction of the size of the vessels, the treatment would at least check the progress of the disease and in some cases effect a cure.

In view of the wide distribution and depth of the metastases, we know that in treating carcinoma of the breast the rays must be so directed that the deep glands in the axilla, under the clavicle, in the mediastinum, those leading to the liver and all the viscera which invite metastases through the lymphatics will receive a full roentgen dose employed so that the deep glands will be given from three to seven times the amount that is given to any skin areas.

Pfahler in a recent article on Malignant Disease of the Lungs advances the theory that when the lungs are involved it must always be looked upon as part of a general carcinomatosis and treated as such. His conclusions are:

1. Primary malignant disease of the lung is rare.

2. Metastatic malignant disease of the lung is common and should always be looked for in connection with advanced malignancy.

3. A roentgenologic examination of the chest should be made in every case of carcinoma of the breast referred for operation or roentgenotherapy and he would look to an earlier recognition of the disease.

For, more and more, we realize that best results come only when the ray is applied early. On an open wound it is productive of rapid healing and the more quickly it is applied to the parts which may still retain cancer cells, the better. I recommend the first treatment within a week after operation or as soon as the effects of the anesthetic are past. This is the only safeguard against recurrence.

I am convinced from the cases I have seen during the past five years that proper postoperative roentgen treatment will now prevent from twenty-five to fifty percent of recurrences even in early cases, because cells can be destroyed at a greater depth and distance from the original growth. And I agree with Deaver that it is only a question of time until the profession will realize that postoperative treatment is just as necessary after the operation as is asepsis before and during the operation.

I have seen splendid palliative results from radiation and find no cause for discouragement as an encouraging number are living today and show no recurrence.

In closing I shall review, briefly, with lantern slides ninety typical cases treated and their results. The majority of these cases came to me for treatment within a month following operation.

Some Clinical Aspects of the Kidney Problem.*

Arthur D. Dunn, M. D., Omaha.

The correlation of bedside, laboratory and dead house findings in renal disease is a problem well worthy of an evening's discussion. The difficulty of translating the morbid physiology of kidney disease into terms of pathological anatomy, is such that the clinician often hesitates (may we say from modesty), to paint a picture of the kidney which he expects to find at the section. The newer researches in blood chemistry, in bacteriology and in urology necessitate a revision of some of our ideas of kidney disease and the formulation of new schemes for its study. I shall present what appeals to me as a good workable classification of kidney diseases, and comment on the same. Then Dr. Cary, the pathologist, will tell you, from his experiences in the autopsy room, how we can better our clinical interpretations, and Dr. Levine, the biological chemist, will tell us of the present and future of chemistry in the solution of the kidney problem.

In the clinical study of renal disease, attention has been centered largely on the urine and conclusions as to the function and pathology of the kidneys have been based largely on its examination. Certain conditions have been shown to be requisite for the secretion of a sufficient urine. In the first place, there must be at least 18% to 20% of the normal kidney weight and this amount of kidney must function normally; in other words, an animal may have 75% to 80% of his total normal kidney tissue removed and still maintain an adequate renal function; secondly, there must be a sufficient vascular system; that is, the animal's circulation must be sufficient. Thirdly, there must be a sufficient supply of free water; and fourthly, the transportation system for the kidney output must be in working order so that the urine be not dammed back on the kidney and thus impair function.

The secretion of urine is a filtration process which cannot be explained at the present time on any known physical or physico-chemical laws. (1) Following filtration by the glomeruli, there is a concentration of the urine by the convuluted tubules. The glomeruli pass the water and the salts out into the tubules; the tubules pass back a certain amount of water into the circulation and add phosphates and foreign substances. These processes are nearly always deranged to some extent in kidney disease, and probably the most accurate information we have of these disturbances is derived from the examination of the urine, and from functional tests, although conclusions based on the urine alone may be as "brittle as the urinal itself," a fact which was appreciated even in the time of Shakespeare:

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*Notes from a discussion on the "Clinical Aspects" in a Symposium on Renal Disease given at a staff meeting at St. Joseph's Hospital, Omaha, November, 1919.

"Falstaff—Sirrah, you giant, what said the doctor to my water?
Page—He said, sir, the water itself was a good healthy water; but for the party that owned it, he might have more diseases than he knew for."

We are wont to say that if a urine contains albumin, and casts, with or without blood, cells or kidney debris, there is Bright's disease or nephritis present. However, we should be better able to translate disturbed function into terms of morbid anatomy and attain a more satisfactory conception of kidney diseases, if we correlate urinary findings with other chemical and clinical data. Any classification of kidney disease at the present time must stress morbid anatomy because an etiological classification is at this time impossible and because changes in structure cannot be disregarded wholly in writing the summary of a disease, although the state found at autopsy may seem to be at variance with the morbid physiology. By careful study of the blood, urine, and of the patient as a whole, the type of kidney found at autopsy or operation, can usually be forecasted. The following classification based on our present knowledge of morbid anatomy and symptomatology, is quite workable:

Renal Disease (Nephropathies).

I. Inflammations—True Nephritides.
  A. Acute
    1. Diffuse
    2. Glomerulo nephritis
    3. Interstitial
    4. Parenchymatous (?)
    5. Hemorrhagic
    6. Suppurative—septic
      a. Cortical
      b. Medullary (pyelo-nephritis) localized or diffuse.
  B. Chronic
    1. Chronic diffuse (chronic parenchymatous).
      a. Large white kidney.
      b. Small white (secondary contracted) kidney.
      c. Speckled (bunte niere) kidney.
    2. Chronic suppurative
    3. Syphilitic
    4. Tuberculous
II. Edema.
  (Non-inflammatory Disease — Degeneration—results of local or a part of general processes).
  A. Acute
    1. So-called toxic nephritides, (fevers, bichloride of mercury, phenol, cantharides, uranium nitrate, etc.)
    2. Cold
    3. Exertion
    4. Anemia
    5. Pregnancy
    6. Insolation
    7. Asphyxia
    8. Shock
    9. Orthostatic
  B. Chronic (certain cases of chronic parenchymatous nephritis ?).
III. Vascular Diseases (non-inflammatory).
  A. Cardio-vascular renal disease (chronic interstitial, primary, contracted kidney).
  B. Arterio-sclerotic kidney
  C. Amyloid disease
  D. Infarcts
  E. Cyanotic induration
IV. Tumors
V. Diseases of the Collecting Apparatus
VI. Congenital Disturbances

It is to be noted that the lines are drawn sharply between inflammatory and non-inflammatory diseases. The great gift of nineteenth century medicine was the theory of infection and most of the advances in our conception of kidney disease since the time of Richard Bright, have been from the study of the bearing of infection on the problem. The differentiation of inflammatory from non-inflammatory disease must always be kept in mind, if for no other than for its therapeutic and prognostic moment. The term nephritis—the suffix "itis" denoting inflammation—should be reserved for those cases in which the kidneys show the accepted characteristics of inflammation: swelling, exudation, congestion, infiltration of the supporting tissues by migratory cells and by the proliferation of fixed tissue cells, i. e., the architectural alterations which arise from "the local adaptive changes resulting from actual or referred injury." (2) The injury, for clinical purposes, can be assumed to be largely the result of bacterial action. When the action of the noxious agent, and the reaction to it has been rapid, we speak of the nephritis as acute. If the reaction to it has been of long duration, the disease is chronic. The bringing in of the time measure is merely a matter of clinical convenience; the processes are fundamentally the same. If the noxious agent has shown a selective action for certain structures, such as the interstitial tissue, we speak of an acute interstitial nephritis; if for the glomeruli, a glomerulo-nephritis. Suppression of urine and hemorrhages are particularly likely to occur when the glomeruli are hard hit. This type is common in scarlatina and other acute infections. In most instances, the vascular and supporting tissues are about equally affected and the condition is termed a diffuse nephritis. The propriety of speaking of a parenchymatous nephritis is questionable, because the reaction to injury is a function of the less highly specialized cells. A varying degree of parenchymatous change accompanies all kidney inflammation, but it is in the shape of degeneration, death or repair; the parenchyma does not participate in the struggle against the injuring agent—it is the victim.

The suppurative or septic group is of unusual interest, because it gives opportunity for surgical therapy. Cabot and Crabtree (3) have shown that pus cocci localize in the cortex and spread towards the periphery and are prone to cause nephritic and perinephritic abscesses. Pain is not uncommon in this group but urinary findings are as a rule scanty. Colon bacilli, on the contrary, localize in the medulla and cause large quantities of pus in the urine (pyelo-nephritis) with or without abscess formation in the kidney. These infections are probably embolic and often involve only one kidney. It is obvious that the above conditions may be localized or diffuse, depending on whether the embolism is general, as is common in malignant endocarditis, or local. Febrile manifestations, leukocytosis, and the urinary findings are the keys to the diagnosis. The cystoscope determines the localization of the process.

The chronic nephritides may be divided grossly into chronic diffuse, syphilitic, chronic suppurative and tuberculous. The importance of the diagnosis of chronic diffuse nephritis hinges on the almost fatal prognosis of this group of cases. The large white, small white, and speckled (bunte niere of the Germans) kidneys are well known post mortem types which can usually be diagnosed, if the onset, clinical course and urinary findings are sufficiently studied. These groups with certain acute nephritides constitute the "wet" type of Bright. The urine varies in amount, contains unusually large quantities of albumin, globulin, casts of all varieties, blood, and kidney debris. Blood studies by Epstein (4) revealed a marked diminution in serum albumin and globulin with a marked increase in the amount of blood fat. This author has reported favorable results by the elimination of fat from the diet and feeding large quantities of protein. The diminution of blood fat under treatment, as demonstrated by Epstein at Mt. Sinai Hospital, New York, seems rather convincing.

The treatment of the true nephritides is primarily the treatment of infection. The first question to be decided in all inflammatory disease of the kidneys is whether the condition is surgical or non-surgical. The second question is whether there are removable extrarenal sources of infection which are contributing indirectly to kidney destruction and whether it is a fitting time to attempt the removal of such foci. When these questions are disposed of, the physician can proceed with equanimity to the institution of his medicinal, dietetic, and protective measures.

Edemas (Parenchymatous Degeneration, Cloudy Swelling).

The importance of this phase of the kidney problem was first emphasized by Martin H. Fischer(5), who applied the principles of colloid chemistry to the study of kidney disease. His arguments and general conclusions are: "All the changes that characterize nephritis are colloid chemical in nature and due to a common cause—the abnormal production or accumulation of acid and of substances which in their action upon colloids behave like acid, in the cells of the kidney. To the action of these upon the colloid structures that make up the kidney are due the albuminuria, the specific morphological changes noted in the kidneys, the associated production of casts, the quantitative variations in the amounts of dissolved substances secreted, as well as the other signs of nephritis which appear in direct connection with the kidney." The trouble with Fischer's thesis lies in the conception given to the word cause. In general disturbances in the hydrogen ion concentrations of the body and in general or local interference with the circulation with resultant increase in the acid content of the kidney cells, swelling of the kidney colloids occurs; the urine shows albumin, casts, blood and often desquamated kidney cells. This condition is not nephritis but edema; it is not an adaptive change to actual or referred injury. At the most it may be considered an incidental result of a local effort at adaptation. Restoration of oxygen supply with a normal gaseous interchange in the kidney cells or alkalinization, if the changes in the kidney colloids have not become irreversible will be followed by a rapid disappearance of the urinary findings and of the general symptoms. It is in such conditions as eclampsia, acute toxic kidney disease, and experimental "nephritis" brought on by injecting dilute acids into animals, etc., that Fischer obtained his spectacular results. While swelling is a part of every true nephritis, the idea of curing inflammatory disease of the kidney by alkalinization is on a parity with the idea of curing a febrile disease by cold sponging, i. e., treating the symptom for the disease; although the treatment may be valuable as an aid, it is not curative. Valuable as alkalinization may be in true nephritis, it is far from the specific that it is in edemas of the kidney. The differentiation of simple edemas of the kidney from true inflammations is most important from a prognostic standpoint. In acute edemas the prognosis is good and the therapy simple: in true nephritides the prognosis is always a matter of uncertainty, the clinical course long, and protective and etiologic therapy imperative. When the cellular content of the urine is high, when polymorphonuclears and monoculears are present in large numbers, when cellular casts and blood casts predominate, we can expect relatively little from alkalinization and that the clinical course will be slow. On the contrary, in the absence of a vascular basis for the disease, when the albumin content is moderate, the cells relatively few, and granular and hyalin casts predominate, the prognosis is usually good and the results of alkaline therapy satisfactory. It should be further emphasized that in kidney conditions associated with arterial changes and high blood pressure, little lasting benefit can be expected from alkali because the basic changes are permanent.

Pathologically, the edemas are characterized by swelling and graying of the kidney. The edemas are frequently associated with fevers, exposure to cold, exertion, pregnancy, anemia, insolation, asphyxia, etc., and are the mis-termed acute nephritides. They recover rapidly under treatment. Finally, it must be emphasized that cellular edema (cloudy swelling, graying, etc.) is present to a greater degree in every disease involving the kidney substance, and that while alkaline and saline diuretic therapy may be beneficial in cases of true nephritis, it is not curative.

The Vascular Diseases.

Chronic interstitial nephritis (hypertensive nephritis, azotemic nephritis), the arterio-sclerotic kidney, amyloid disease, infarction, and stasis are included under the vascular disease. The chronic interstitial or primary contracted kidney is the only one which will be discussed here. It is the "dry" type of Richard Bright. Three components seem to me to enter into the conception of chronic interstitial nephritis, viz., a cardiac component, an arterial component, and a renal component. Those who consider chronic interstitial nephritis as part of a general vascular disease, are probably right. Study of kidney sections in chronic interstitial nephritis will soon convince one of the almost universal involvement of the fine arteries—the arterio-capillary fibrosis of Bland Sutton. The evidence of vascular trouble is everywhere—in the glomeruli as well as in the interstitial tissues. The pathological difference between the chronic interstitial and arterio-sclerotic kidney would seem to lie much in the size of the arteries affected. Chronic interstitial nephritis as a non-inflammatory disease and as a part of the aging process should be emphasized. The role that low grade infections (focal) play in the production of vascular changes must at present remain uncertain. Much of the decay that we attribute to age, strain, etc., may be proven eventually to be of microbic origin. Focal infection is a too much neglected point for therapeutic attack in incipient hypertensive cardio-vascular disease (chronic interstitial nephritis). The removal of such foci is at this time empirical and should be advocated frankly as an advisable procedure of problematic value in a condition where any treatment that promises anything whatsoever should be resorted to. One and one-half years ago a patient came to us with a systolic blood pressure of 220 and with albumin and casts in his urine and symptoms requisite for a diagnosis of chronic interstitial nephritis. Extensive buccal and tonsillar infections were removed and the usual protective therapy was instituted. The patient returned to the office the other day with a normal urine and a systolic blood pressure of 140. The result was so unusual that I believe much may be attributed in this instance to the removal of the infections.

Chemical Aspects.

The problem of morbid kidney function is best solved by a study of the urinary output and of the blood for retained products. Of first importance is water secretion. Only exceptionally will a normal water output be associated with marked diminution of kidney function. A good method is to give a patient 500 cc. of water about three hours after a light breakfast. At least 300 cc. of this water should be recovered in urine in two hours. The phenolsulphonephthalein or "red" test is easy of application and quite reliable. An output of above forty per cent in two hours is considered satisfactory. The phthalein output as a rule follows rather closely the water output and it is a well established fact that with a daily water output of below 500 cc. the phthalein test is valueless. We have seen cases, however, with a phthalein output of five per cent, pass 2000 to 3000 cc. of urine daily. The retention of nitrogenous products as revealed by the study of the blood is a valuable index of kidney function. In azotemic or hypertensive nephritis, the blood urea level is high. It would seem that in chronic interstitial nephritis a higher urea partial pressure is necessary for its secretion and individuals will be found running along smoothly with 25 to 35 mgms. of blood urea nitrogen per 100 cc. when the normal urea blood level is 12 to 18 mgms. per 100 cc. McLean (6) has worked out an index of excretion based on the constant relationship of four variables: (1) the concentration of urea in the blood; (2) the concentration of urea in the urine; (3) the rate of urinary excretion which together with (2) gives us the rate of urea excretion and (4) the weight of the individual. Fluctuations in the index parallel the phenolsulphonephthalein output. From a prognostic standpoint, the blood creatinine estimate is most important. Usually the blood creatinine will vary between 1 and 2 mgms. per 100 cc. It is endogenous in origin, is not influenced by diet and therefore more constant. Five mgms. or over of creatinine per 100 cc. is of bad prognostic import, and death from chronic interstitial nephritis is preceded for some time by high creatinine values.

The retention of chlorides in kidney disease is still a question of interest. I have been unable to convince myself that they are a cause of edema, although cases of persistent edema with low plasma chlorides are exceptional. Epstein (loc. cit.) has reported cases of chronic parenchymatous nephritis with anasarca in which only .2 to .3 per cent chloride was found. The diuretic value of chlorides is mentioned in Cohnheim's Pathology and Fischer has brought forward considerable experimental evidence to support the contention (7). Much is to be expected from blood chemistry in formulating reliable prognostic data and indices for the control of treatment. Accurate estimation of kidney function should be of crucial value in determining whether surgical interference should be resorted to in prostatic disease and in surgical conditions occurring in cases of hypertension. Surgery of choice should not be instituted in prostatic or hypertensive disease without knowledge of the blood urea or non-protein nitrogen or creatinine.

In the study of kidney disease, the following points seem worthy of emphasis:

1. A differentiation of inflammatory and non-inflammatory kidney disease.
2. The importance of being on the alert for surgical conditions.
3. That there is danger in focusing on the kidney alone, for manifest kidney disease is often merely a symptom of a general condition.
4. That the conception of infection is the most important addition to the knowledge of kidney disease in the last 50 years.
5. That an accurate estimate of kidney function in the presence of hypertension or prostatic disease is of great assistance in lowering surgical mortality.

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Treatment of German Measles, Pertussis, Scarlet Fever and Diphtheria.*

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Some one has mentioned as fundamental in the treatment of contagious diseases the following: Rest, fresh air, diet, hydrotherapy and drugs, including specifics.

Rest.

Rest "in bed" should be absolute in diphtheria, scarlet fever and measles. In german measles and pertussis, if there is fever, until such time as conditions have sufficiently approached the normal that gradually getting up can be accomplished with a good degree of safety. It means a comfortable bed, competent nursing, freedom from useless and harmful so-called therapeutic measures which annoy and disturb the patient. It means the securing of sufficient sleep and relief of pain. It means the taking thought in doing even the necessary things for the patient that he is not constantly and unnecessarily disturbed by the thought of something else to be done for him, or as the child regards it "to him." The average trained nurse, even, is not trained in the care of children. Too often she gains experience at the expense of the little sufferer who quite naturally looks upon sprays and gargles and irrigations and medicines and enemata as a part of his affliction and protests with all his little might against their use. Usually two or three of these necessary treatments can with a little care and planning be done quickly and without argument, and then a period of several hours be allowed in which he soon learns he is to be let alone.

If a nurse with three years training in the care of the sick is derelict in these respects how much more so the untrained mother in her natural anxiety for the child and her sympathy for him. Every ounce of strength should be conserved remembering that there is a definite relation between intake and output and if the intake is lessened the expenditure should be diminished.

Diet.

There are certain physiological facts worthy of note. I quote from Meara:

1st. "The amount of work done and the amount of heat given off by the body each day is derived from the food taken in that day or stored in the body from previous meals, and that store is not inexhaustible.

2nd. The amount of energy supplied to an individual each day at rest amounts on the average to 33 calories per kilo. of body weight.

3rd. A sick individual at rest requires as many calories of energy as a well one.

4th. Fever makes certain demands in excess of those obtaining in health because the increased temperature increases the output some 25%, thus raising the caloric requirements to about 40 calories per kilo.

5th. The toxins of disease are destructive of body tissues in varying degrees, a destruction which may be overcome or minimized by a sufficient intake of food." We need to remember also that proteid requirements in health and sickness are about the same, i. e., about 1.5 grams per kilo and that if proteids are not furnished in the diet, the body burns its own. Certainly we must respect the anorexia present at the onset of all infectious diseases, but to keep a child on a diet far below his caloric requirements is neither good judgment theoretically nor practically.

Fresh Air and Hydrotherapy.

Perhaps somewhat less important are these measures than rest, diet and specific treatment, but their value is imperfectly realized and utilized. The processes of metabolism in these diseases are scarcely less influenced by fresh air and hydrotherapy than in the pneumonias yet few would question their efficacy in the latter. However, many times we fail to take advantage of fresh air and hydrotherapy to their full extent, and the laity still less appreciate their beneficent effects. Without stopping to discuss the modus operandi of these measures, the writer would state that it is his conviction that pneumonia and nephritis are less frequent in those patients whose treatment includes careful attention to the above than in those in which it does not. The constant flushing of all the excretory and secretory functions by plenty of fluids can scarcely fail to dilute the toxins and render less massive the infection in organs which bear the burden of infection or toxines.

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*Read at Nebraska-Iowa Pediatric Society, Omaha, Neb., March 25, 1920.

German Measles.

Griffith sums up his entire treatment of German Measles in five lines, Graham in seven, Holt in four, Koplik in four, Ratchford in nine, Dunn in six, Morse in six. The writer has nothing to add except to emphasize the importance of a correct diagnosis and to call to remembrance the fact that occasionally a child does die even from German measles.

Measles.

D. L. Richardson and Hilary were able to produce passive immunity by injection of immune serum from patients convalescent from the disease. They also attempted to produce active immunity by intramuscular injection of immune serum and simultaneously rubbing fresh secretion from the nose of a case of active measles on the nose of children not immune. The apparent immunity lasted something more than five weeks. One child had an eruption which may have been modified measles twelve days after the inoculation but had no constitutional symptoms.

The writer visits a measles patient and endeavors to impress upon the mother or other attendant the seriousness of the disease, explains to her that as many children die annually from measles as from scarlet fever, that successful treatment means the avoidance of complications, the most frequent of which is otitis media, the most serious, broncho-pneumonia, and the possibility of tuberculosis being a sequel.

The laity is usually sufficiently impressed with the necessity of avoiding eye complications and insists upon excluding all light and usually fresh air as an important part of the treatment. Fresh air constantly in the room is recommended and the patient's eyes protected from a glare of light by proper arrangement of shades or tinted glasses, and usually the mother is told not to give more cathartics, that one daily movement of the bowels is sufficient. Two patients, even though both infected with measles, should not occupy the same bed, nor should separate beds be placed in such proximity that crossed infection is possible. The conjunctivae if irritated are treated with irrigations of boric acid solution, some oil, preferably carbolated yellow vaseline, is directed to be placed in each nostril three times daily, the mouth and throat are directed to be cleansed occasionally with alkaline antiseptic solution, a cough prescription with perhaps a small dose of codeine or heroin is given, fresh air is insisted upon, a daily cleansing bath is recommended, tepid bath repeated as desired for fever, plenty of water and a light diet. If earache is present irrigate with hot water, drop into the ear five drops of 5% phenol in glycerin, incise drum if bulging.

The writer has seen one case of complicating meningitis with fatal result and one of endocarditis. These are met in the usual manner.

Laryngitis.

It is to be remembered that a measles patient has apparently a peculiar susceptibility for diphtheria and if there is a reasonable suspicion of a specific infection antitoxin should be administered without delay. Hot or cold compresses over the larynx may be used, steam inhalations are very useful, or if a spasmodic element is suspected calcium chloride or bromide may be given.

Vomiting.

Withhold water and food and give cracked ice.

Diarrhea.

Withhold milk and give carbohydrate diet and use opium preparations if necessary. Do not give cathartics.

Convalescence.

Allow up, when fever and rash are well gone, allow out seven to ten days later if cough is well under control and strength and appetite are good. Be in no hurry to get the patient back to school or in contact with others on account of danger of other infections to which the patient must certainly be more susceptible. The physician should outline a proper diet for the patient during this period and prescribe a tonic if needed. Iron in the presence of anemia, the best preparation being the saccharated oxide of iron in a 3 or 5 grain tablet according to age. Tincture of nux vomica if there is poor appetite. Malt with cod liver oil as a general tonic.

Pertussis.

Huenekens recommends freshly prepared vaccines in large doses 1-1½-2 billions and obtained positive reactions in 100% of cases as shown by antibody formations. He concludes that "it is most valuable as a prophylactic, but should be of great value in early catarrhal stage of pertussis." Barenberg concludes that "pertussis vaccine given in large doses does not tend to lessen the severity of disease." He thinks, however, that as a prophylactic the vaccine is of value. Bloom considers "vaccine therapy as the most rational and effective method of treating whooping cough."

Luttinger thinks "pertussis vaccine works to the satisfaction of both patient and physician and that its widespread use will solve the problem of whooping cough." The writer's experience would agree with that of Barenburg. Vaccines are without value as a curative measure, but apparently effective as a prophylactic.

Drugs: The writer counted in a recent therapeutic text thirty-two recommended. Butler mentions twenty-four. Holt exclusive of inhalations and local applications, mentions five and thinks antipyrin the choice. Kerley mentions sixteen and says antipyrin gave the best results in a series of test cases in an institution. Dunn says one drug seems to work better in one case another in another. He thinks quinine holds first rank in the early stages. He mentions also opiates, antipyrin, bromides, belladonna, bromoform and local application and inhalations of various sorts. Koplik mentions ten. Mackintosh writing in 1844 quotes Gregory as saying that "I think it proper for me to warn you in the first place that we have no use for it." A remark yet true. Quite naturally he suggests bleeding for severe cases and leeches over the parts affected, digitalis, tartrate of antimony, blisters, gentle purgatives, and mentions as his observation that should a case of pertussis become infected with scarlet fever or measles the whoop disappears to again return on disappearance of the measles. Opiates, Peruvian bark, Ext. conii, zinc, arsenic, silver nitrate, garlic, alum and camphor are mentioned and concludes that it would be no slight task to give a list of the remedies which have been strongly recommended.

Osler says a large bottle of paregoric and six weeks.

To the writer three drugs seem to be of outstanding value, quinine, antipyrin, and belladonna in the reverse order named. He has hesitated to prescribe opiates for the reason that under their influence mucus loaded with infection may be aspirated deeper into the lungs with a resulting broncho-pneumonia. He has also been fearful of the depressant effect of antipyrin, but it apparently does give some relief.

Atropine, however, is a stimulant. It relaxes spasm. It modifies secretion. It diminishes the frequency and severity of the paroxysms. To be of value however it must be given in larger doses than are commonly administered. It is best given in a solution, 1 gr. of atropine to 2 ounces of water and 1 gtt. of this for each year of child's age is given every 4, 3 or 2 hours until relief, or physiological effect is seen as evidenced by dilated pupils or flushed skin. It does not usually disturb the digestion. It does not depress. It does not diminish the general resistence of the patient. It does not need to be discontinued in the presence of fever or broncho-pneumonia. The Kilmer belt is sometimes satisfactory, sometimes not. The value of fresh air, which is probably the most important therapeutic measure, can scarcely be over emphasized as well as the most careful attention to dietetic supervision.

Scarlet Fever.

The definite etiology of scarlet fever is, as yet, not settled, so specific therapy is not possible at the present time. For more than twenty years different workers have at various times claimed to have isolated the causative agent, but so far the claims of none have received general confirmation. The role of the streptococcus is an important one. Just how important, no one knows. Its part in the complications of all five of the diseases under consideration is an important one. Just how important, no one knows. So far as the writer knows neither serum nor vaccine has an established value either as a curative or as a prophylactic measure in scarlet fever. Because one has given serum or vaccine to a small number of exposed persons and they failed to contract the disease, is not scientific evidence that there is any relation between assumed cause and effect. Only about 20% of the people generally contract scarlet fever. Neither does the giving of a serum or vaccine to a scarlet fever patient who recovers prove that his recovery was brought about by such procedure. The mortality of scarlet fever varies from 3 to 40%.

A. L. Hoyne says that the use of convalescent serum has given good results in treatment of scarlet fever. It is given intramuscularly in doses of 30-60 cc. and repeated as required. The severe toxic cases according to the author respond strikingly.

We are advised to choose a room which is large, well ventilated, light, clean, with direct connection with a bath room and with an open fire place. This is indeed ideal and would be fine if none but the wealthy contracted scarlet fever and their homes were constructed having in mind its treatment. Unfortunately, however, this is not true and too often we must make the best of poor accommodations. Of course the patient and the attendant should if possible be separated from the rest of the family, all unnecessary furniture, rugs, etc., removed from the room, dishes boiled, clothing and bedding sterilized, etc., as in any quarantine. Rest, fresh air, and hydrotherapy are managed as above. A milk diet only, would hardly seem necessary. A scarlet fever patient needs food the same as any other sick individual. Sufficient milk to satisfy the proteid needs and various carbohydrates of easily digestible character would seem best to meet the requirements. If vomiting ensues milk had best be withdrawn for a time. Plenty of water must not be forgotten. Excessive temperature should be controlled by sponging with tepid water and if necessary a few small doses of phenacetin. The mere presence of fever, even though high, is not an indication for treatment, unless the child is nervous, or the high temperature prolonged. The temperature is probably best treated by letting it alone.

The bowels should move once daily. If there is itching of the skin it may be oiled and dusted with corn starch. Oiling would seem to be of value during the stage of desquamation. The otitis, adenitis and angina are treated as in diphtheria. Arthritis may be relieved by moderate doses of salicylates remembering that large doses may irritate the kidneys which may already be having all or more than they can do. A discharging nose or ear, and possibly nephritis are of more danger to the community than the scales. The urine should be frequently examined.

Stimulants.

The essayist is somewhat skeptical as to the real value of any of them in saving lives. He would place much more confidence in early and absolute rest, fresh air, diet, proper nursing and plenty of fluids than on any or all stimulants used early or late. Nevertheless for a rapid or weak heart he uses tincture of digitalis, for an irregular heart strychnia, for emergencies adrenalin, camphor or caffeine-sodium-benzoate.

Diphtheria.

Zingher argues for the active immunization of all infants under 18 months and all other children who give a positive Schick test: He notes the fact that there is a mortality in the United States of over 23,000 and a morbidity approximately ten times as high. Of 1,200 scarlet fever patients admitted to the hospital with a negative Schick reaction not one developed diphtheria, although from 15% to 20% of them became carriers of virulent diphtheria germs. The immunity with which the child is born and that which is conferred through breast milk is shown to be temporary and disappears at from 6 to 9 months of life. Children born of non-immune mothers are not immune, while those born of mothers who are immune become susceptible at the above age.

Therefore he argues for the active immunization of all infants under 18 months and all others who give a positive Schick test. According to Zingher it is possible to confer a lasting immunity in 95% to 100% of susceptible individuals as shown by subsequent negative Schick reactions and by exposure to diphtheria without any evidence of resulting infection. This immunity he has observed to last over three years and in a small group over 4 years.

Abt commenting on Zingher's article says: "Active immunization against diphtheria deserves the careful study and consideration of the medical profession. The mortality of diphtheria in young children and infants continues very high in spite of the specific antitoxin. Active immunization against the disease may be employed with practically no danger and should be extensively used in private as well as in institutional practice. The general practitioner should employ it in his private practice."

Park has used .5 cc. toxin-antitoxin in three doses one week apart for children under 1 year, over 1 year, 1 cc. He has injected 4,000 cases. No diphtheria has so far occurred in those immunized. After the first injection 80% are immune, after the second 90%, after the third 97%.

The problem of carriers is a difficult one. The writer saw one case in the Boston dispensary who had been a patient for fourteen months. Antitoxin intravenously, subcutaneously or locally does no good. Albert, in a series of cases, with various local applications concluded that silver nitrate was superior to all other measures. Kaolin, iodin, sprays of cultures of staphylococcus, or lactic acid bacilli have been used locally with reports of varying success. Tonsilectomy some times succeeds when all other means fail.

One can scarcely resist the conclusion that determination of the immunity by means of the Schick test and immunization of the nonimmune is the solution of the problem. We must admit that with a mortality of approximately 23,000 and a morbidity enormously greater our present methods of isolation, quarantine, cultures and antitoxin have failed to meet the requirements.

Treatment of Individual With Diphtheria.

Of general measures rest would easily take first place. Fresh air and diet, with plenty of fluids should not be lost sight of. The known exposed should receive an immunizing dose of antitoxin of 1000 units. The patient himself should receive at once a dose of antitoxin and probably no dose should be less than 10,000 units. The size of the dose depends on the condition of the patient, the period of time he has been ill, and the financial status of those paying the bills. That given intramuscularly or intravenously is probably more efficient. Certainly, that given early is more effective than that given later. One dose given early is more effective than an equal amount given in several doses later. The writer saw one case to whom Place had given 200,000 units. It is his practice to give one large dose and give it early. The writer believes the loose tissues at the angle of the scapula to be the choice of location for injection, but various sites may be chosen.

In laryngeal diphtheria text books usually direct that large doses be given. Woody's assistants in the diphtheria wards in Philadelphia suggest that in this type the patient does not die from diphtheritic toxin but from laryngeal obstruction and this should be relieved by intubation or tracheotomy and the membrane allowed to become gradually separated by smaller and repeated doses of antitoxin with less danger of aspiration pneumonia. It is an interesting observation and furnishes food for thought.

It is well to remember that diphtheritic membrane may go far down the bronchial tree and that steam constantly introduced under a tent, which is not too close, may give relief to patient. Place told the writer he had removed this membrane with forceps through a bronchoscope.

In nasal diphtheria gentle irrigation with mild antiseptics may do some good, or instillation of a solution of argyrol. Skin, ear, conjunctival, rectal, or vaginal diphtheria are so rare as not to merit much comment. Adenitis is treated with ice bags and incision and drainage if pus forms.

Otitis media is treated as in measles or scarlet fever.

Paralysis, if of soft palate by careful feeding by nasal or stomach tube if needed, strychnin and time, if of extremities the same.

Broncho-pneumonia and nephritis are treated as in any other condition.

Angina. The writer is distinctly opposed to swabbing the throat or nose with solutions of any kind or character. Drugs sufficiently powerful to destroy germs are also sufficiently powerful to damage tissues, and tissues even though damaged by disease are better able to maintain resistance to organisms than tissues damaged by both drugs and disease. There are three other ways of administering local treatment, irrigations, sprays and gargles, of value in the order named. Strong solutions should not be used. Probably irrigation with hot normal salt or soda solution is superior to all other measures. Local treatment is best dispensed with in a struggling nervous child who is very ill, for the extra exertion does more harm than the treatment does good. Hydrogen peroxide occasionally used during the time the membrane is separating does some good. It should not be used too long nor too frequently for it becomes irritating if so used.

Convalescence.

Parents should be cautioned as to danger of getting up too soon. Getting up should be a gradual process. Iron is usually indicated.

Serum Sickness.

This is sometimes annoying but not dangerous. The arthritis may be somewhat relieved by moderate doses of salicylates. The urticaria may be greatly relieved temporarily by hypodermic or rectal administration of adrenalin. The dangers of antitoxin have been much exaggerated by the laity. Some deaths, however, have unfortunately occurred. If the patient is known to be an asthmatic and particularly if an attack is excited by the odor of the horse (though this sensitization may be due to horse hair rather than the serum) or there is reason to believe that the patient may be sensitized one can give three drops of serum, watch results for one hour and repeat. Usually the third dose of three drops will desensitize and the necessary dose may be given with impunity.

Mechanical Treatment of Compound Fractures of the Upper Extremity.

James E. M. Thomson, A. B., M. D., Lincoln.

The scope of this paper being limited strictly to the mechanical treatment of compound fractures of the upper extremity, the etiology, anatomical relations and operative measures, as well as infectious processes complicating bone injuries, are excluded except as they bear directly on the treatment of the particular fracture discussed.

For the convenient application of certain principles in treatment, these fractures may be classified as follows:

I. Fractures of the humerus:
    1. a. Fractures into shoulder joint;
        b. Fractures of surgical neck and upper third.
    2. a. Fractures of middle and lower third;
        b. Fractures into elbow joint.

II. Fractures involving bones of forearm:
    a. Fractures above the lower fourth of radius and ulna, one or both bones;
    b. Fractures of the lower end of one or both bones, and into wrist joint.

III. Fractures of metacarpals and phalanges.

Treatment may be considered under two headings: 1. First aid for transportation; 2. Hospital management.

1. Proper first aid and fixation for transportation is of great importance. Not only is it for the comfort of the patient, but it bears a definite relation to the ease with which after-management is instituted and also to the character of the final result obtained.

Fractures of the shoulder joint are moved best in a Thomas arm splint or the Murray modification thereof (the hinge ring splint), without traction but merely fixation by muslin bandage around the splint; the arm, however, being well packed in cotton. The splint should rest at a right angle to the body.

In like manner are fractures of the humerus maintained; however, traction is here employed either by adhesive plaster applied to the arm or by a non-constricting hitch. For fractures above the middle third, the abducted position of the arm is essential; for those of the middle and lower thirds, the arm may rest at the side of the body.

Flexion with but slight or no extension is the position of election for fractures of the elbow, therefore the Jones humerus splint, the elbow splint, or a Thomas arm splint bent at the elbow are applicable. The Thomas arm splint with extension is perhaps the most adaptable for fractures of the forearm. However, when the lower ends of the radius or ulna are affected, with or without carpal complication, a cock-up or dorsi-flexed position should be maintained. For this purpose a ladder wire splint is preferable. Metacarpal and phalangeal fractures may also be comfortably packed on a ladder wire splint.

The institution of proper hospital management and the application of mechanical devices must be guided and checked by roentgen examination. Also, the use of those appliances which make the patient ambulatory early in the course of treatment hasten healing and union, thereby shortening the period of disability. However, due consideration must be given to the amount and virulence of infection and the ease with which the fragments can be maintained in position.

Compound fractures of the shoulder, humerus and elbow should be suspended under a Balkan frame after the manner described by Blake, or in a Thomas splint. Fractures involving the shoulder joint rarely need traction, and every effort should be made to allow the head of the humerus to remain in close apposition to the glenoid cavity, the arm abducted at an angle of 90 degrees with the body. Fractures of the upper end of the humerus are likewise maintained in abduction, but with sufficient external rotation and traction to bring the lower fragment into proper apposition and alignment with the upper fragment. Fractures of the middle lower third are suspended in the axis of the body or, for convenience, slightly abducted. The forearm is always flexed; when held so by dorsal and ventral application of adhesive it aids greatly in maintaining traction and pro-

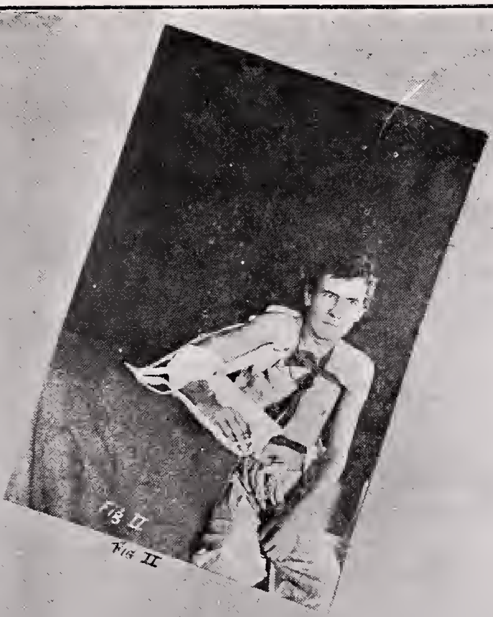

Fig II

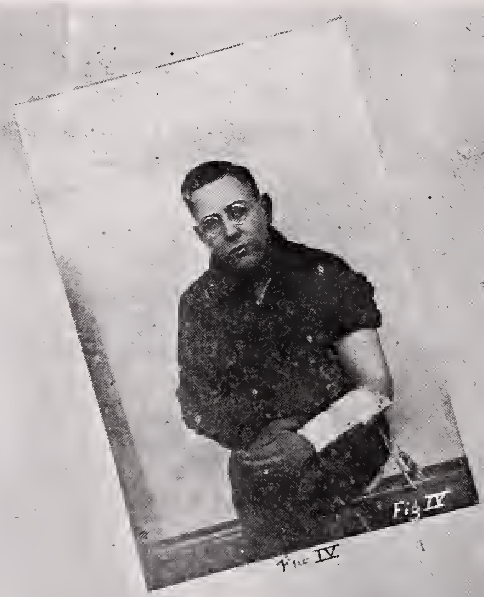

Fig IV

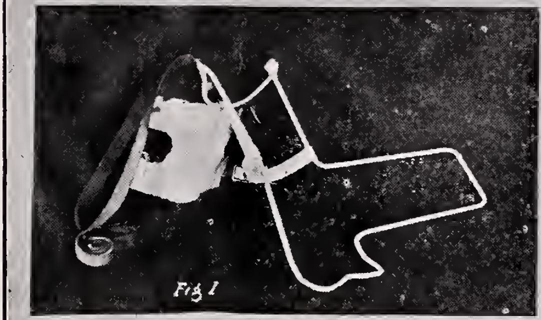

Fig I

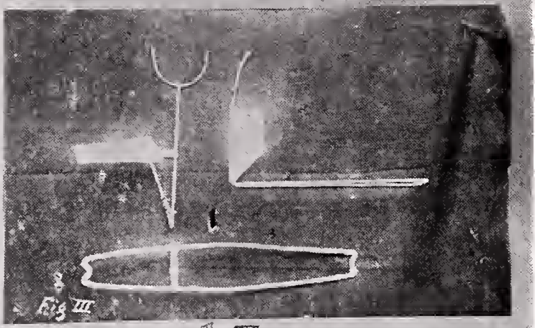

Fig III

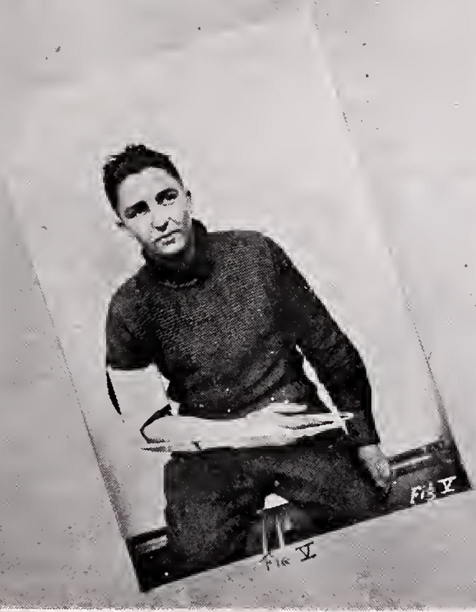

Fig V

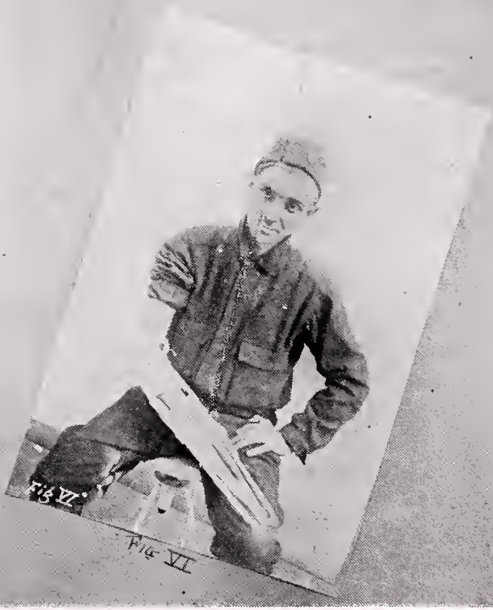

Fig VI

per position. In fact this measure alone is sufficient with fractures of the elbow. Great care must be taken not to have excessive traction, as the fragments may be separated, thus prohibiting firm union, and actual lengthening of the arm may take place.

The technic of applying suspension apparatus is as follows: Adhesive straps are placed on the inner and outer aspects of the arm below the site of fracture. If the Thomas splint is used, traction is applied over the end with twisting-stick. Proper abduction is obtained by cord, pulley and weight suspension from a longitudinal bar overhead. By flexing the forearm and the application of slight traction to that region, in the proper angle, adequate external rotation is established. Suspension without the use of a splint is by far the simpler and more adequate method. The adhesive is applied in a similar manner to the arm, but the necessary traction is accomplished by means of cord, pulley and weight from the overhead frame or attachment at the side of the bed, depending on the angle of abduction and rotation desired. The arm is supported by a sling embracing its entire length and suspended from an overhead longitudinal bar.

When the physical condition of the patient and appearance of the wound permit, ambulatory apparatus should be applied. The plaster-of-paris aeroplane cast is selected in some cases of fracture of the shoulder and upper end of humerus, the objection being that, when necessary, moist dressings soil and soften the cast. However, the moisture may be walled off to a certain extent by a coat of paraffin around the edge of the window giving access to the wound. The metal aeroplane splint is preferable in most cases, however, because of the ease with which wound treatment may be carried out. After using various types of aeroplane splints, the one most adaptable is a combination of the body piece of the Jones abduction arm splint and the wing or arm piece of a Thomas abduction traction arm splint, with muslin supporting straps. (Fig. 1). The method of strapping this splint under the opposite arm and over the opposite shoulder maintains the splint firmly in position without discomfort to the patient. (Fig. II). The amount of abduction is regulated by bending the arm-piece up or down, likewise rotation is accomplished by bending the forearm of the splint. Traction is obtained by adhesive on the arm or by a hitch over upper forearm attached to the end of the lower elbow flexion bar by means of a twisting-stick. Such a splint should be worn until firm union has taken place.

The splint preferred for fractures of the middle and lower thirds of the humerus, when sufficiently recovered to be made ambulatory, consists of a half-ring axillary crutch with a single traction bar extending down the inner side of the arm to a point six or eight inches below the elbow joint, at the end of which is attached a small spiral spring. (Fig. III, No. 1), (Fig. IV). A flexed forearm padded cuff, freely moveable up and down on the extension bar, holds the forearm when bound to it in a flexed position, while traction on the humerus is established by direct pull on the cuff which is attached by wires to the spring below. With this, no adhesive applied to parts is necessary for traction. The idea for this splint was suggested by my former consultant, Dr. C. F. Eikenbery.

Compound fractures of the elbow joint, when ambulatory, are managed in the humerus traction splint; or, where there is extensive injury to the soft tissues of the radial side of the forearm, the Jones elbow splint is applied.

Practically all fractures of the forearm and wrist may generally be made ambulatory from the beginning of management, except where complications of the patient's physical condition prohibited. Where the involvement of the radius and ulna was above the lower end of the shaft, a flexed forearm splint is applicable consisting of sheet-iron padded cuff against the humeral biceps, the side bars of which are flexed at the elbow, extending forward to a position about four inches beyond the finger tips. (Fig. III, No. 2), (Fig. V). The iron bar on the side near the body extended up beyond the upper margin of the cuff about six or eight inches, rendering support for the brace against the scapular region. The arm lies between the bars on muslin cross-strips and was held in position by adhesive plaster extension applied to the dorsal and ventral surfaces of the forearm below the fracture, and joined over the end of the bar, extension being regulated by a twisting-stick or Spanish windlass as used in a Thomas leg splint. In the use of this splint, care was taken to maintain the arm in a supinated position.

In certain selected cases where there is little tendency to over-riding, a fore and aft forearm splint (or submarine, as christened by the patients) is used. (Fig. III, No. 2, Fig. VI). It consists of parallel iron bars, held in position at the center by a steel ring. Adhesive plaster extension is applied above and below the site of the fracture and joined over each end of the splint, the arm being supported by muslin strips alternately under and over the arm. This splint was found especially useful in cases where only one bone was fractured, either the radius or ulna, where extensive traction is not desired, and merely the maintenance of position and convenience in wound treatment is essential. This splint allows free movement of the elbow joint.

The position of dorsi-flexion is essential for most fractures of the wrist, as there is usually complicating carpal injury involvement of the radio-ulnar articulation. A plaster-of-paris cast or cock-up splint is adequate for this purpose.

Compound fractures of the metacarpals and phalanges should be placed under traction by means of carefully applied adhesive straps to the fingers, or by finger-nail extension. Traction is accomplished by cord from the adhesive or nail over a cross-bar or ring a few inches beyond the finger-tips, held in place by side irons embedded in plaster cast or arm splint.

After union has taken place, the same form of traction can be used to obtain fixation of the fingers.

In closing, there are a few points which I wish to reiterate.

1. Mechanical treatment of fractures should begin as a first-aid measure as soon as possible after the injury, and should consist of proper splinting and position depending on the site of fracture, maintained during transportation and until hospital management is begun.

2. Hospital management should embody every feature to promote the best results.
   - (a) The use of appliances should be guided and checked by the X-ray.
   - (b) No more traction should be employed than is actually necessary to maintain position.
   - (c) In fractures of the arm, abduction angle and external rotation should be guided by the position of upper fragment.
   - (d) Shoulder joint injuries should not have traction.
   - (e) Flexion of the elbow is preferable when possible.
   - (f) Forearm fractures must be held in supination.
   - (g) When the physical condition permits and position can be maintained, the patient progresses more rapidly when placed in an ambulatory splint.

Aortic Aneurysm. A Report of Two Cases.*

George P. Pratt, B. Sc. M. D.
Instructor in Medicine, University of Nebraska, College of Medicine, Omaha.

Two interesting examples of syphilis of the aorta have recently been studied at the University of Nebraska Hospital. One was a well developed aneurysm; the other smaller with only moderate dilatation. The diagnosis in each instance was suggested by quite a different group of symptoms and confirmed by the X-ray examination and blood Wassermann test.

Case 1. M. H., colored, age 43, married with no children, presented himself at the hospital on October 27, 1919, on account of shortness of breath and cough with expectoration. The shortness of breath began suddenly one year ago after rather severe exertion while working at the stock yards. At first the difficulty with breathing only followed heavy work, later he noted that even slight effort would precipitate an attack, and during the last month the dyspnoea had been quite constant, only being relieved by absolute rest in bed. In spite of the fact that he had been about cattle at his work he had never come to associate the two conditions, as one would expect in anaphylactic asthma. On questioning he seemed quite certain that the extreme effort was in getting the air into his lungs; that is, that the dyspnoea was inspiratory in character. Cough had been associated with the attacks of dyspnoea usually preceding the paroxysms and lasting sometime afterward. At times the cough was dry, harsh and nonproductive; at other times extremely productive. A bedside sputum cup was filled with a mucopurulent material. The sputum had never been blood tinged nor was the odor bad as one expects in fetid bronchitis. At this point in the examination it was suggested that the patient cough. The cough had the characteristic metallic, brassy ring which suggests paralysis of the recurrent laryngeal nerve. This dry ringing quality he stated had only been present the last few months. The patient had never noticed swelling of the feet or ankles. Nocturia was not present. The bowels were regular and the appetite good. There had never been any difficulty in swallowing and except for the tightness in his chest during the more severe attacks of dyspnoea he had suffered no pain. He stated that he had never had a sore spot in his chest. The family history was negative and he denied any luetic infection.

Examination of the patient showed a medium sized colored man, well nourished and with shallow labored respirations. On inspection the thorax, excepting a slight increase in the antero-posterior diameter presented no abnormalities. There was a mildly diffuse apex beat with only slight enlargement of the heart. There was slight dullness in the second right interspace extending 3 cm. to the right of the sternum. The heart tones at the apex and base were normal in quality and no murmurs were heard. No murmurs or "bruits" could be heard in any part of the chest. There were piping rales both inspiratory and expiratory over the entire lower chest with bubbling rales and slightly impaired resonance over the right lower lobe posteriorly. The pupils were equal and of normal reaction. The blood pressure at the left radial was systolic 155 mm. Hg., diastolic 110; right radial systolic 165; diastolic 110. There was no tracheal tug. The laryngeal examination was always unsuccessful on account of the dyspnoea. The urine was normal. The blood serum completely inhibited hemolysis in a Wassermann test.

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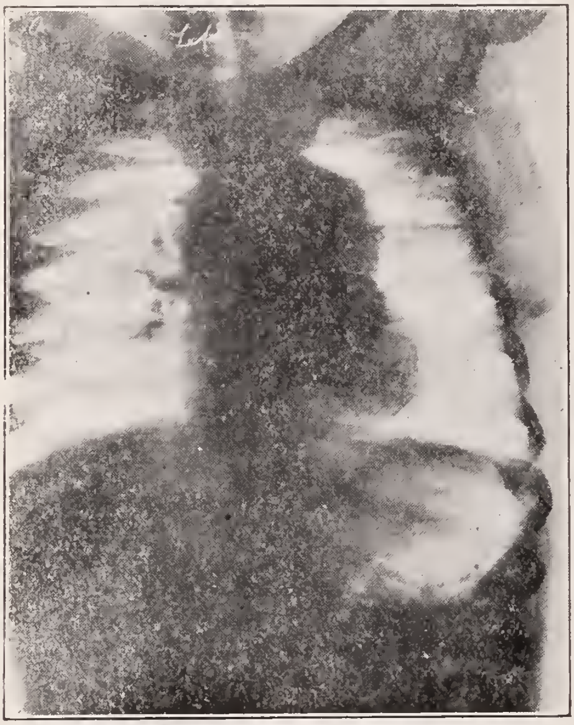
*From the medical service of Dr. W. O. Bridges, University Hospital, Omaha.

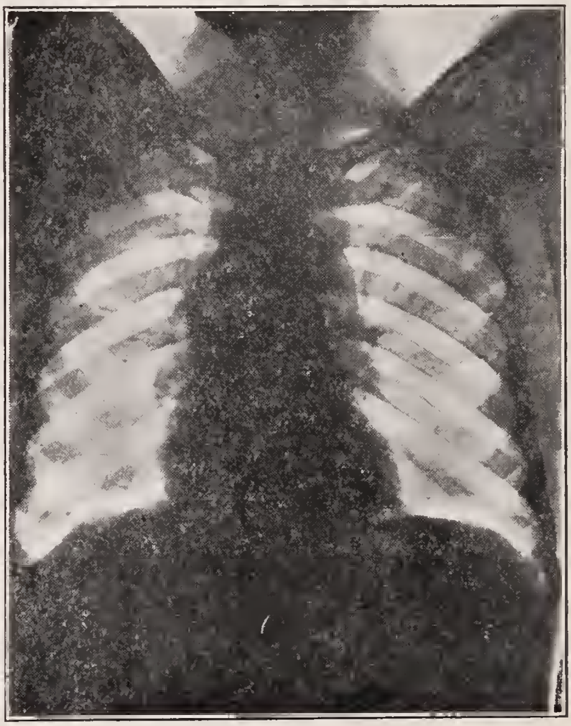


Case No. 1.

The dyspnoea, not associated with other signs of decompensation and out of all proportion to the cardiac findings and of the inspiratory type associated with the brassy cough would certainly suggest a mediastinal tumor of some type making pressure on a bronchus and the recurrent laryngeal nerve. The bilaterally disproportionate radial blood pressures and the positive Wassermann test were confirmatory evidences of aneurysm. Against the diagnosis of aneurysm was the complete absence of pain. The patient on repeated questioning always stated that he had never suffered any pain or tenderness in his chest. The absence of bruits was also confusing. These latter signs are often absent when a laminated clot in the aneurysmal sac reduces its lumen to something approaching a normal diameter. The X-ray examination revealed a large sacculated aneurysmal dilatation of the transverse and descending portions of the aortic arch which was almost the size of the heart. There was also a marked increase in the peribronchial streaming and increased density of the right lung. Usually it is the left bronchus which is occluded as the aorta passes over it to come to its posterior position, so that the left lung should present evidence of chronic bronchorrhea. In this instance, either by its irregular shape the tumor is actually pressing on the right bronchus, or there is pressure against the right pulmonary vein causing stasis.

The patient was given antisyphilitic treatment for six weeks and dismissed from the hospital with no addition to the symptoms present on admission nor with any noticeable improvement.

Case 1, died January 27, 1920, after twenty-four hours of extreme dyspnoea. The autopsy revealed a large aneurysmal dilatation of the transverse and descending portions of the arch of the aorta. The aneurysmal sac was intact containing a heavy coat of fibrin and was making pressure against both bronchi which were congested and filled with a bloody



Case No. 2.

purulent exudate. There was some erosion of the fourth and fifth thoracic vertebrae. Both pleurae were thickened and obliterated with dense adhesions to the pleural cavities. The right lung contained many bronchiectatic cavities the size of grapes. The heart was dilated. The aortic valves were intact. The coronary arteries revealed no abnormalities.

Case 2, Mr. B., colored, age 49, married with no children was admitted to the hospital December 4, 1919, complaining of severe pain under the left shoulder. The pain which began two months previously came on suddenly and was described as hard, boring and unbearable, worse at night, usually commencing about 4 o'clock in the afternoon. It radiated from the fourth thoracic spine and extended under the scapula and into the axilla between the fourth and fifth ribs. It was not exaggerated with deep breathing. It was worse when the patient laid on his left side. There was never any superficial tenderness in the chest. He had some cough, but no more than had been present for years.

Examination of the thorax was not illuminating. The heart was very slightly enlarged, the sounds normal but not heard well. Excepting for a small chest expansion the lungs were normal and the physical examination of the thorax generally yielded normal findings. The urine contained its normal constitutents. The blood serum completed inhibited hemolysis in a Wassermann test.

Superficial causes of such a pain might have been pleurisy, intercostal neuritis, or myalgia. The myalgia should present some superficial tenderness which was not present. This pain should be exaggerated with muscular effort and with deep breathing as should the pleurisy pain. The absence of any friction rub would speak against the latter. Intercostal neuritis is often associated with herpes which was not present and is usually of a shorter duration, although the pain from intercostal neuritis would radiate characteristically as this one does. The latter diagnosis seemed the more rational and intercostal neuritis with duration of two months would suggest some pressure on a nerve from a mediastinal condition, vertebral or spinal cord pathology. An X-ray examination of the chest corroborated this assumption and revealed a well developed aneurysmal dilatation of the posterior portion of the arch of the aorta at a location which could easily make pressure against the fourth intercostal nerve to produce the pain described. This patient is being given antisyphilitic treatment at the dispensary and has obtained some relief from the pain.

The pain produced by an aneurysm occurs in two types: anginoid pain and pain due to pressure. According to Sir Clifford Albutt, aortitis is the most constant finding associated with angina pectoris so that in aneurysm especially attacking the ascending portion of the arch with a luetic mesarteritis involving the coronary arteries at the root of the aorta, we should expect pain. All aneurysms, however, do not produce this type of pain. The first instance gives no history of pain and in the second case the pain is not of the anginoid type. There is probably no involvement of the coronary arteries. The anginoid pains in aneurysm like all luetic pains are worse in the afternoon extending into the night. The duration is from a few minutes to half an hour or longer. The pain is very severe, perhaps the most agonizing of all pains, giving great anxiety and the fear of impending death. The pain is more commonly felt in the precordium behind the sternum or in the epigastrium. It may be supraclavicular or in the region of the cervical vertebrae and of the small occipital nerves. These pains may occur either on the left or the right side and bear some relation to the location of the aneurysm. Or more characteristically, the pains may extend down the medial side of the left arm to the elbow, wrist and little finger. These attacks nearly always follow exertion. After meals these patients should be especially cautioned as even the slightest exertion at this time will cause trouble. Sometimes the increased work thrown on the heart by digestion may precipitate a paroxysm.

Besides these anginoid pains, there are commonly pressure pains usually found in the later stages. They are described as burning and boring as in Case 2 and frequently are worse in the evening. Their location is thoracic and they are referred along the intercostal nerves. In cases with erosion of the sternum or vertebrae the pain is more constant from pressure of the tumor. There may be pressure against the oesophagus causing dysphagia, or as in the first instance pressure on the bronchi with the resultant dyspnoea and bronchorrhea.

The prognosis of aneurysms is bad. Not all aneurysms rupture spontaneously. The walls at times are very thick and strong and are compatible with life for a considerable time. Only about one-half of the cases of aneurysmal death is due to rupture. The remaining die of interstitial pneumonia, chronic cardiac dilatation and decompensation or exhaustion from long continued pain with intercurrent infections.

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Vol. V. May, 1920. No. 5

The Nursing Problem.

The communication from the State Board of Vocational Training printed elsewhere in this issue is well worth study. The question of obtaining an adequate supply of nurses under the present high requirements is an extremely important one and one that is proving more difficult to meet as time goes on and the opportunities offered in other lines of endeavor enlarge and prove more attractive.

The field for the properly qualified nurse is a very large one which no one but the properly trained nurse can fill. There is, however, another field into which the nurse is forced that is a loss both to the nurse herself and to the community. In any hospital many nurses, graduate "specials" qualified to care for the really sick will be found caring for convalescents who need no real nursing care while the country is being searched for nurses to care for desperately sick patients or postoperative surgical patients to whom their services would be invaluable. The care of the ordinary convalescent case is not particularly interesting work for the nurse and certainly does not offer a field for the special knowledge and skill which she possesses. Deprivation of others of her services works a positive hardship.

Three of the courses suggested by the Vocational Board offer a way out of this difficulty in proposing short courses which will train women to carry out the minor nursing procedures needful for convalescent patients. Women thus trained can be allowed to take up this work on this class of patients only and such patients can be turned over to their care where the need for the more highly specialized knowledge and experience possessed by the graduate nurse has passed. Under such a system it will be less difficult to maintain an adequate supply of properly trained nurses.

It remains for the medical profession working with the nurses and proper authorities to evolve a method of education to train such workers and after training them to regulate their activities so that they will be restricted to their proper sphere.

Nebraska Vital Statistics.

A comparison of the vital statistics of the state for the years 1918 and 1919 show the following:

	1918	1919	Decrease
Births reported	29,736	26,640	3096
Deaths reported	15,663	11,651	4012
	1918	1919	Increase
Marriage licenses issued	10,748	14,074	3326
Divorce proceedings	2,237	3,359	1122

The decrease in number of deaths in 1919 is largely due to the decrease of influenza during that year, but the same does not account for the decrease of over 3000 in the births reported. An analysis of the birth reports by counties shows the following counties reporting an increase of births during 1919 over 1918: Banner, Boone, Brown, Cherry, Cheyenne, Dixon, Hayes, Hitchcock, Kearney, Kimball, Morrill, Thurston. In these twelve counties 224 more births were reported in 1919 than in 1918. All other counties in the state show a decrease in 1919, the following counties showing a decrease of over 100 births:

	Decrease
Cuming	130
Custer	138
Dodge	125
Douglas	170
Furnas	114
Hall	108
Saline	103

All the others show a decrease of less than 100 each.

That the physicians of the state are not reporting all their births is evidenced by the following facts: (a) The 1919 birth reports were closed for classification on February 20, 1920. Since that time 586 birth certificates have been received from physicians, some of them for births occurring as far back as July and August, 1919. (b) The writer recently visited one of the county seat towns in the state from which only 11 birth reports had been received for the months of December, January and February, and in a few hours time he checked up 11 more births which had occurred during these same three months and not reported. On this same trip the writer visited another town from which 13 births had been reported during these three months, and in a few hours time found nine unreported.

We believe every physician in the state is familiar with the vital statistics law and that the great majority of them make an honest effort to comply with it, but that there are a few men in the different communities of the state who persistently disregard it. We see no other course open to us in justice to the great majority of the profession who are complying with the law, than to cause the prosecution of these men who are persistently violating it. A word to the wise is sufficient.

I. H. Dillon, M. D.,
Chief of Bureau of Health.

Annual Meeting of the Omaha Roentgen Society.

The annual meeting of the Omaha Roentgen Society was held at the Hotel Fontenelle, Saturday, March 27th.

The program opened at 8:00 o'clock with clinics at the University of Nebraska and St. Joseph's Hospital. These clinics were largely attended.

The program at the hotel opened at 10:00 o'clock with Dr. Overgaard of Omaha, reading a paper on "The Treatment of Cancer by the Roentgen Ray." This was followed by Dr. W. N. Anderson of Omaha who gave a few introductory remarks explaining the moving picture films which had been furnished by the United States Government demonstrating the principles of physical diagnosis as used in instructing the members of the medical corps during their army training. This film of actual physical examinations of the chest was well worth the time and expense necessary in securing it. The next paper was by Dr. Wm. W. Duke of Kansas City on "Oral Infection in Its Relation to Systemic Diseases." This subject was very opportune and was well presented, leading the thoughts of those present to a clearer understanding of the subject. Dr. B. H. Orndoff of Chicago, followed with a paper on "The Peritoneoscope in Diagnosis of Diseases of the Abdomen."

This method of looking into the peritoneal cavity through an instrument introduced through the abdominal wall has been introduced into America by Dr. Orndoff who has done a large amount of work in this line. The paper was interesting and clearly presented. At the noon hour, the Omaha Chamber of Commerce was the scene of a noon day luncheon, after which Dr. Joseph Colt Bloodgood of Johns Hopkins Hospital gave a talk on "What everyone should know about the X-ray." This address was well received and was to the point.

After the luncheon, Dr. E. W. Rowe of Lincoln gave an excellent paper on the subject, "Tuberculosis of the Kidney from the Roentgen Standpoint." The subject was treated in a thorough manner, the available literature having been reviewed in preparation of the material and interesting reports of the pathology were demonstrated by lantern slides. Dr. Harry A. Everett of Lincoln read a paper on the "X-ray from a Surgical Aspect." We think that this paper produced more discussion than any other on the program. Dr. Everett took an advanced standpoint on the use of the X-ray in a therapeutic way and was able to prove his point. Dr. E. H. Skinner of Kansas City, gave a talk on "Management of Severe Malignancies of the Throat and Neck," emphasizing the importance of attacking these malignancies with every possible means known to medical science and to do it at once. He recommended the use of surgery, radium, X-ray and electrothermic coagulation. By this method of treatment, he thinks that a greater percentage of success can be obtained. Dr. R. D. Carmen of the Mayo Clinic read an excellent paper on the subject, "Tuberculous Colitis." This subject was interesting to every practitioner and the essential points and diagnosis were briefly summarized by Dr. Carmen. The paper was illustrated by lantern slides showing the diagnostic points which are demonstrable by the opaque enema and the roentgen ray. Dr. J. B. Potts of Omaha read a paper on "Maxillary Sinus Infection Secondary to Periapical Infection of the First Upper Molar and with Polypi." This subject was especially opportune as most men have had the experience of seeing a very large percentage of maxillary sinus infection following the recent epidemic of influenza. Many of these are not necessarily due to influenza but on the other hand are due to abscess of the upper 1st molar or 2nd bicuspid with rupture through the floor of the sinus.

At 6:30 the banquet was attended by about one hundred and fifty guests. Following the banquet, Dr. Joseph Colt Bloodgood of Baltimore gave an illustrated talk on "The Roentgen Diagnosis of Bone Tumors." This talk was based upon pathological material secured at the Johns Hopkins Hospital during the past twenty-five years. It was logical, very comprehensive and entertaining. The doctor's research work in this line is unsurpassed and has opened up many new diagnostic points in the matter of bone disease. His reclassification of bone tumors is admirable, greatly simplifying the nomenclature and making it much easier for the student to grasp the principles of the pathology. Dr. Bloodgood divided bone tumors into two types, central and periosteal. The men who were privileged to hear Dr. Bloodgood's address in the evening felt that this paper alone paid them for their trip to Omaha.

The plate exhibit was well prepared and much interesting pathology was shown. The manufacturer's exhibit was as large as is usually found at a national medical meeting.

Supplemental to the History of Omaha-Douglas County Medical Society—Background.

By A. B. Somers, M. D.

In the Journal of November, 1919, page 324.

The following was handed to the Journal by an Omaha surgeon whose grandfather's name is one of this membership roll.

List of Members of the Omaha Medical Society, 1869.

Babcock, L. F., M. D.
Baumer, Theodore, M. D.
Coffman, V. H., M. D.
Conkling, J. R., M. D.
Denice, J. C., M. D.
Gardner, J. B. W., M. D.
La Barie, J., M. D.
Lowe, Enos, M. D.
Mathewson, H. P., M. D.
McClelland, W. M., M. D.
Mercer, S. D., M. D.
Monell, G. C., M. D.
Moore, R. C., M. D.
Peabody, J. H., M. D.
Peck, J. P., M. D.
Pinney, C. H., M. D.
Roeder, Augustus, M. D
Rippey, J. N., M. D.
Stangland, E. C., M. D.
Tilden, George, M. D.

Honorary Members.

Andrews, J. P., M. D.	Ft. Calhoun
Black, James, M. D.	Plattsmouth
Bass, Cyrus, M. D.	North Bend
Bonesteel, S. A., M. D.	Columbus
Miller, G. F., M. D.	Omaha
Livingston, R. R., M. D.	Plattsmouth

Officers for 1869.

J. H. Peabody, M. D.	President
J. P. Peck, M D.	Vice President
H. P. Mathewson, M. D.	Recording Secretary
J. C. Denice, M. D.	Corresponding Secretary
R. C. Moore, M. D.	Treasurer

American Medical Association Notes.

Election of Officers.

The following officers have been elected for the year 1920-1921:

President-Elect—Dr. Hubert Work, Pueblo, Colo.

First Vice President—Dr. Isadore Dyer, New Orleans, La.

Secretary—Dr. Alexander R. Craig, Chicago.

Treasurer—Dr. William Allen Pusey, Chicago.

Speaker House of Delegates—Dr. Dwight H. Murray, Syracuse, N. Y.

Vice Speaker House of Delegates—Dr. F. C. Warnshuis, Grand Rapids, Mich.

Board of Trustees—Dr. Chas. W. Richardson, District of Columbia; Dr. W. T. Sarles, Sparta, Wis.; Dr. Walter T. Williamson, Portland, Ore.

Judicial Council—Dr. I. C. Chase, Texas, (1925).

Council on Health and Public Instruction—Dr. Milton Board, Kentucky, (1925).

Council on Medical Education and Hospitals—Dr. Ray Wilbur, California, (1925).

Council on Scientific Assembly—Dr. J. Shelton Horsley, Virginia, (1925); Dr. F. B. Gengenbach, Colorado (1924, unexpired term); Dr. John E. Lane, Connecticut (1921, unexpired term).

Board of Trustees.

Chas. W. Richardson, District of Columbia; W. T. Sarles, Sparta, Wis.; W. T. Williamson, Portland; Frank Billings, Chicago, Secretary; Wendell C. Phillips, New York; Thos. McDavitt, St. Paul; A. R. Mitchell, Lincoln, chairman; D. Chester Brown, Danbury, Conn.; Oscar Dowling, Shreveport, La.

A resolution urging doctors to refrain from sending indigent consumptives to the southwest, as it was said that many of them were sent there penniless, and left to the care of the state, was adopted.

A resolution prohibiting doctors from prescribing whiskey for influenza was tabled.

Resolutions declaring opposition to the institution of any form of compulsory health insurance were adopted.

Boston was chosen as the place of the 1921 convention.

REFERENCE COMMITTEES

Sections and Section Work.

Chairman, Hugh T. Patrick, Illinois; Lee Marsten Francis, Ophthalmology; Frank E. McCullough, U. S. Navy; S. R. Roberts, Georgia; Southgate Leigh, Virginia.

Rules and Order of Business.

Chairman, Leroy Long, Oklahoma; W. R. Bathurst, Arkansas; John S. Helms, Florida; W. S. Lindsay, Kansas; E. A. Pray, North Dakota.

Medical Education.

Chairman, J. N. Hall, Colorado; W. H. Seeman, Louisiana; Frederic E. Sondern, New York; L. Hektoen, Illinois; F. F. Russell, U. S. Army.

Legislation and Public Relations.

Chairman, J. H. J. Uphan, Ohio; Franklin E. Murphy, Missouri; J. E. Lane, Connecticut; S. E. Lambert, Washington; LeRoy Crummer, Nebraska.

Hygiene and Public Health.

Chairman, J. W. Schereschewsky, U. S. P. H. S.; A. T. McCormack, Kentucky; C. Van Zwalenburg, California; J. W. Flinn, Arizona; C. St. Clair Drake, Preventive Medicine and Public Health.

Amendments to Constitution and By-Laws.

Chairman, Rock Sleyster, Wisconsin; W. B. Russ, Texas; E. A. Hines, South Carolina; Albert E. Bulson, Jr., Indiana; Edward Heckel, Pennsylvania.

Reports of Officers.

Chairman, Thos. S. Cullen, Maryland; F. B. Lund, Massachusetts; Holman Taylor, Texas; B. R. McClellan, Ohio; C. R. Ogden, West Virginia.

Credentials.

Chairman, H. B. Gibby, Pennsylvania; S. W. Welch, Alabama; Jos. M. Aikin, Nebraska; John C. Rockafellow, Iowa; D. E. Sullivan, New Hampshire.

Miscellaneous Business.

Chairman, F. C. Warnshuis, Michigan; C. J. Whalen, Illinois; N. B. Van Etten, New York; Geo. E. Reading, New Jersey; J. W. Bell, Minnesota.

Medical Veterans of the World War.

At the annual meeting just held Dr. Frank Billings, of Chicago, was elected President and Admiral E. R. Still of the Medical Corps of the Navy was elected Vice President.

The following gentlemen were elected trustees for the ensuing year: Dr. Hubert Work of Colorado, Dr. John M. Dodson of Chicago, Dr. Geo. Brewer of New York, Dr. Joel Goldthwaite of Boston, Dr. James Perry and Col. Frank Kiefer, both of Washington. Col. F. F. Russell, of the Army Medical School, Washington, D. C., was elected Secretary-Treasurer.

A badge has been designed for the members which is deservedly popular, and has been purchased by many members, both old and new.

The next annual meeting will take place in Boston on the day preceding the meeting of the Scientific Assembly of the American Medical Association.

First Exhibit of Council on Medical Education of the American Medical Association.

Progress in medical education and legislation was shown graphically by a stream of visitors at the exhibit of the Council on Medical Education of the American Medical Association. Doctors saw how the home office keeps their professional biography "from the cradle to the grave." They got information about requirements of schools and state boards, reciprocity, internships, medical cults, and ratings of medical schools and hospitals.

The Council on Pharmacy and Chemistry.

The exhibits of both the Council on Pharmacy and Chemistry and the "A. M. A. Chemical Laboratory" were centers of attraction. Many physicians expressed themselves as instructed and entertained by the exhibits.

The following physicians from Nebraska attended the A. M. A. convention:

Joseph M. Aikin, Omaha.
Rodney W. Bliss, Omaha.
Earl B. Brooks, Lincoln.
A. E. Cook, Randolph.
LeRoy Crummer, Omaha.
John S. Deering, Elmwood.
Francis Elias, Wymore.
J. H. Fochtman, Cozad.
M. J. Ford, Omaha.
Howard B. Hamilton, Omaha.
A. F. Jonas, Omaha.
A. R. Knode, Omaha.
H. J. Lehnhoff, Lincoln.
H. B. Lemere, Omaha.
John P. Lord, Omaha.
Delia A. Lynch, Omaha.
H. M. McClanahan, Omaha
Robt. E. Marble, Omaha.
J. M. Mayhew, Lincoln.
A. R. Mitchell, Lincoln.
H. Winnett Orr, Lincoln.
James M. Patton, Omaha.
F. A. Pollack, Norfolk.
John B. Potts, Omaha.
Chas. O'N. Rich, Omaha.
Robt. D. Schrock, Omaha.
A. C. Stokes, Omaha.
A. B. Tashjean, Norfolk.
A. F. Tyler, Omaha.
W. P. Wherry, Omaha.
S. S. Wilson, Nebr. City.
W. H. Wilson, Lincoln.
S. G. Zemer, Lincoln.

GENERAL NOTES.

The Mid-Summer Session of the Southern Minnesota Medical Association will be held in Fairmont, Minn., June 28 and 29, 1920.

At a meeting of the Association of Military Surgeons of the United States in New Orleans on April 24th, J. W. Kerr of New York was elected president and Col. James Robbchurch of Washington re-elected secretary-treasurer.

The rapid growth of business in Canada has made it necessary for The Abbott Laboratories to establish its own branch office in Toronto.

The medical and dental profession of the United States will be interested to know that the Frank S. Betz Company, of Hammond, Ind., who recently opened a complete exposition and sales room at 6 and 8 West 48th St., New York City, have purchased the entire stock and business of the Crown Surgical Instrument Co., located on 8th Avenue near 49th Street, and will retain the services of the entire Crown Surgical Co's. organization, including Mr. A. G. Roberts, who will manage the new Betz' store at 6 and 8 West 48th Street.

ABOUT THE DOCTOR.

Dr. D. R. Higbee, has moved from Schuyler to Salt Lake City.

Dr. M. O. Arnold of Montana, a former army medical corps member, has located at St. Paul, Neb.

Dr. E. C. Henry, Omaha, spent some time the past month doing special work in Harvard University.

Dr. A. N. Howley, Norfolk, spent the latter part of April at Excelsior Springs.

Dr. Wesley C. Becker, formerly of Papillion, Neb., has located in Lincoln, and has limited his practice to diseases of childhood and obstetrics.

Dr. E. E. Rider, formerly of Bertrand, Neb., has returned from military service and located in Lincoln.

Dr. E. C. Abbott, Omaha, was married to Mrs. Alma Healy of Lincoln on April 10th.

Major General W. C. Gorgas has been made director general of sanitation by the Peruvian government, at a salary approximately $15,000. An effort will be made to eradicate yellow fever, plague, etc.

The Lynch hospital was dedicated May 4th by Archbishop Harty. It will be conducted by a Catholic sisterhood.

The Verges Sanitarium, Norfolk, was opened by Dr. C. J. Verges. It is intended largely as a rest cure and is fitted with modern appliances.

Dr. R. E. Kriz has become associated with Dr. C. J. Verges of Norfolk in the practice of medicine.

Dr. F. S. Salisbury and Dr. W. T. Wildhaber have associated themselves in the practice of medicine at Beatrice.

Dr. Edmund Lissack, a former house physician of the Swedish Mission Hospital, Omaha, has become associated with Dr. W. E. Stewart of Stratton.

The Wise Memorial Hospital graduated a class of 15 nurses April 22nd.

Dr. Kenneth Davis, son of Dr. Homer Davis of Genoa, has been discharged from the army and returned to his home.

Dr. A. E. Smith, formerly of Davenport, Neb., has located at Sylvan Grove, Kans.

Dr. J. C. Tucker, formerly of Long Pine, has become associated with the Dr. Gifford firm in Omaha.

Dr. Morris Nielsen of Blair is in the Wise Memorial Hospital, Omaha, rapidly recovering from a recent illness.

Dr. William H. Slattery, formerly city physician of Lincoln, has been again appointed to that position to succeed Dr. H. A. Gerbig, resigned.

Dr. J. R. Taylor of Minneapolis has located in Sidney and is associated with Dr. J. C. Swartslander.

Dr. C. B. Coleman of Ulysses who has practiced medicine in Butler County for thirty years, having become incapacitated by cholecystitis has been temporarily succeeded by his son, Dr. Fred Coleman, who relinquished an interneship in a Philadelphia hospital for the purpose.

During the winter Dr. W. J. Mayo and Dr. Franklin H. Martin, President and Secretary-General of the American College of Surgeons, accompanied by their wives, made an official trip to Peru, Chili, Argentine and Uruguay, in the interests of the A. C. S. and were very warmly received. The account of the trip as given in the April Surgery, Gynecology and Obstetrics is an article of much interest.

Dr. Robt. H. Kerr of Alma, Neb., was a recent caller in the Journal office.

Dr. I. H. Dillon and Dr. P. H. Bartholomew of Lincoln have been called to attend a meeting in Washington, D. C., in the interest of public health work.

Dr. and Mrs. Lucien Stark of Hartington were recent visitors in the Journal office.

Dr. Howard L. Updegraff of Omaha, who has been in the Kings County Hospital, Brooklyn, N. Y., called recently in the Journal office.

Dr. E. L. Brush of Norfolk has returned from a six weeks' trip spent in post graduate work in New York City.

Dr. J. O. Hoffman of Orleans after serving the Orleans community for almost forty years, has retired. A public reception was tendered the doctor and his wife as a testimonial "for the long years of ministering to the suffering of the community and to their high standard of citizenship."

It is not so rare for a doctor to be sued for malpractice. It is rather uncommon for a doctor to be placed in the position where he has to protect his professional honor by suing a layman for slander. Dr. William E. Doan of North Bend has commenced an action for this purpose.

Dr. P. H. Salter, Norfolk, spent some time in April and early May at Excelsior Springs for rest and relief from an annoying sciatica.

Dr. O. C. Hopper of Stanton suffered the loss of his wife April 15.

SOCIETY NOTES.

On Friday, April 23d the University of Nebraska College of Medicine, Omaha, was host to the premedical students of the state. Nearly two hundred pre-medical students from the University of Nebraska, Wesleyan University, Union College, the University of Omaha and other institutions, visited the University of Nebraska and inspected the laboratories of the College of Medicine. The visitors were met at the station by members of the faculty and taken by autos to the University Hospital where clinics were scheduled for the forenoon. Surgical clinics were given by Doctor J. E. Summers and Doctor Edwin G. Davis. A medical clinic was held by Doctor W. N. Anderson and the uses and applications of the X-ray demonstrated by Doctor C. F. Ballard. All visiting pre-medics and instructors were entertained at lunch at the University Hospital. The afternoon was occupied in hospital rounds and visits to the several laboratories. The South Laboratory Building, recently completed was open and was greatly admired by the visitors.

In the evening a general get-together and informal smoker was held at the University Club. Stunts were put on by members of the medical fraternities. Informal talks were made by faculty members as follows: Doctors B. B. Davis, H. M. McClanahan, Alfred J. Brown, J. M. Patton, and Harold Gifford. The affairs of the day were in charge of the Student Activities Committee of the faculty composed of Doctors C. W. Pollard, Chairman, W. N. Anderson, and B. W. Christie.

The John A. Creighton Medical College Alumni Association plans an unusually interesting meeting this year. A diagnostician and surgeon, each of national repute will address the alumni upon latest developments in their respective fields. In addition the Rev. Charles Moulinier S. J. Regent of the medical school of the Marquette University, and President of the Catholic Hospital Association, will address the alumni as well as the religious organizations in charge of the local Catholic hospitals, and those in the surrounding territory. The Catholic Hospital Association is identified with and taking part in the effort of the American College of Surgeons to raise the standards of the medical and surgical practice in the hospitals throughout the United States. The meeting will be held some time in the first part of June.

Dr. H. S. Plummer of the Mayo Clinic has been secured to address the association at this time, the exact dates and the subject of the address will be announced at a later date. The surgeon selected and the subject discussed will also be announced. The meeting will be in the form of a three day clinical session and much excellent clinical material will be available at this time. Clinics will be held in all branches of medicine and surgery. The world war has greatly stimulated interest in postgraduate instruction among members of the medical profession in the United States and this coupled with the disorganization of the medical teaching in England and on the Continent has led doctors to seek advancement in medical science at home. This is reflected in the number of graduates who have signified their intention of attending the coming meeting of the Alumni Association.

The Richardson County Medical Society held its monthly meeting April 7th in Falls City. Dr. Murphy of Dawson presented a paper on "Dystocias and Their Managements" and Drs. Hustead and Fouts of Falls City on "Blood Typing and Transfusion." The society guests for the evening were Dr. Boyer of Pawnee City, Dr. McCrae of Table Rock, Dr. Munson of Julian, and Drs. Irvin, Cline and Lorance of Auburn. The question of a councilor district meeting to be held at Table Rock sometime in October was discussed and agreed upon.

The regular monthly meeting of the Richardson County Medical Society was held in the Falls City Community Hospital on May 5th. The program consisted of a business session, papers read by Dr. A. P. Overgaard and Dr. A. J. Brown of Omaha, and clinical case reports.

The Pawnee County Medical Society met at Pawnee City Hospital March 29, all members of the society being present with Drs. Hustead, Gillispie and Fouts of Falls City, and Dr. Smith of Salem as guests. After luncheon at 6:30 p. m. the regular business of the society was transacted followed by discussion of subjects interesting to the doctor.

At the regular monthly meeting of the Madison County Medical Society, Norfolk, April 6, Dr. G. A. Young, Omaha, gave an address on Syphilis. Twenty-three physicians were present.

OBITUARY

Henry Leland Akin

Dr. Henry Leland Akin, whose death occurred on April 21, was one of Nebraska's best known and most prominent physicians. He was born in Leavenworth, Kansas, forty-eight years ago, and was a graduate of Princeton University and Creighton Medical College. He did a great deal of post graduate work in Vienna, Berlin, London and Paris.

At the time of the entrance of the United States into the World War, Dr. Akin was one of the first medical officers to enlist. He was commissioned Major, and saw two years of active service abroad, having superintended the construction of a large base hospital at La Rochelle, France. After the close of the war, he was given a special appointment under Professor Widal, at the University of Paris. After completing his course, he returned to resume his practice in Omaha, last summer.

Dr. Akin was Clinical Professor of Medicine at Creighton University, and was a member of the Staff of St. Joseph's Hospital, the Ford Hospital and the Lord Lister Hospital. His death was not only a great loss to the Profession, but to the community as well, as he was an ardent student, and an excellent citizen. We all deeply feel the loss of our true, loyal and sincere friend, and wish to express our heartfelt sympathy to the bereaved parents, Mr. and Mrs. Henry C. Akin.

Vocational Education and The Nursing Problem.

L. A. Hartley, Lincoln.

State Supervisor of Trade and Industrial Education.

Inquiries have been received by the State Board for Vocational Education from physicians and hospital authorities in various sections of the state with reference to the organization of classes for nurses.

The policy of the State Board for Vocational Education may be briefly stated as follows:

1. The Board will hesitate to expend any of the Federal or State funds at its disposal until assured of the active cooperation of the physicians' societies and hospital authorities.

2. A representative committee of physicians and other interested persons in cooperation with the State Board of Health should recommend the subject content of the courses offered, equipment of class rooms, methods of instruction, entrance qualifications of students and standards to be maintained.

3. In order that the instruction may conform to the latest practices, the State Board for Vocational Education will approve only such classes as may be organized in connection with hospitals having a staff of physicians and employing at least one graduate nurse. For the present a staff of at least three physicians will be required.

4. Four types of training may be offered:

4-a. Part time preparatory schools or classes may be organized for persons employed in other lines of work who desire to enter the nursing profession. Instruction must be given at least four hours a week for not less than 144 hours a year. Persons employed at seasonal occupations may be accepted during the dull season as dull season employees.

4-b. Part time extension schools or classes may be organized for persons employed in or about hospitals or dispensaries. Instruction must be given at least four hours a week for not less than 144 hours a year. The purpose of the instruction shall be to increase the efficiency of the students and lead to their advancement and promotion. This class may be conducted during a dull season.

4-c. Evening extension schools or classes may be organized for persons employed in or about a hospital or dispensary who desire to become more efficient in their chosen profession. Evening classes may be conducted at any time of the day or night convenient to the students. They must be conducted outside the regular working hours of the student.

4-d. Vestibule preparatory schools or classes may be organized for persons who have been regularly engaged by hospitals as prospective nurses. Instruction must be given at least four hours a week for not less than 144 hours a year. Persons entering these classes should meet the requirements of the law regarding nurses. They will be expected to accept employment at the conclusion of the term.

Classes may be organized and taught in school buildings or in any other place convenient to the students and school officials. In locating the classes the school superintendent will be expected to cooperate with the local advisory committee of physicians and interested persons.

All instruction must be publicly supervised. The superintendent of the public schools in the community concerned shall exercise general supervision over all instruction in cooperation with a local advisory committee of representative physicians and interested persons.

The State Board of Vocational Education will reimburse the local school boards for three-fourths of the salaries of all approved teachers of approved classes. School boards will be expected to provide the necessary equipment and pay one-fourth of the salaries of all teachers engaged in teaching approved classes.

The courses must meet the approval of the State Board for Vocational Education and conform in all respects to the requirements set forth in the State Plans for Vocational Education.

In submitting this statement to the Medical Profession through the columns of The Nebraska State Medical Journal, the State Board for Vocational Education is merely setting forth the limits within which the classes may be operated. Any definite program must originate with a representative committee cooperating with the State Board of Health. When the representative committee has drafted a detailed outline of instruction, the State Board for Vocational Education will be in a position to recommend a definite course of study.

In spite of the similarity in sound, an ingrate lacks much of being great.

Some of us find so much fault with other people simply because we find so little fault with ourselves.

Courtesy is the eye which overlooks your friend's broken gateway, but sees the rose which blooms in his garden.

"The man who loses his temper often thinks he is doing something rather fine and majestic. On the contrary, so far is this from being the fact, he is merely making an ass of himself."—Bennett.

"When a man, by means of the efficiency of his brain, has put his reason in definite command over his instincts, he at once sees things in a truer perspective than was before possible, and therefore he is able to set a just value upon the various parts which go to make up his environment."—Bennett.

"To fear that you can't hold out" in any right course, to shirk just responsibility because you have no respect for your own judgment, to avoid duties and decisions that rightly belong to you because you dread to grapple with them—that is a greater insult from within than anyone can offer you from without.

"A business manager in Washington could reduce the Government's pay roll in that city alone by 25,000 employees simply by putting the eight-hour day into effect in place of the seven-hour day. The Government clerks get a full month's holiday each year, fifteen day's sick leave without showing a doctor's certificate and another fifteen days on showing such a certificate—all on full pay. And they work seven hours a day. Yet they go about Washington mourning like Rachel for her children.

"Secretary Baker lopped 500 of them off the pay roll one Saturday recently, and by Monday morning he had letters of protest from 167 senators and representatives.

"Yes, I am convinced that a business manager with some authority would be a useful member of the Government."—Thomas R. Marshall, Collier's Weekly.

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State Care of Defectives.*

Address of the Chairman of the Medical Section.

LeRoy Crummer, M. D., Omaha.

The care of the insane and other defectives is so thoroughly accepted as a function of the State, it is hard to realize that it is only a little over a century since Pinel first insisted that the insane were entitled to proper study and care and only eighty years since Connolly fought his dramatic battle to do away with mechanical restraints. Twenty-five years later, Charles Reade aroused popular attention to the evils of the old system in his novel, "Hard Cash."

While there were a few asylums founded in America in the early part of the last century, it was not until 1850 that the movement for state provision for the insane was generally established. Even after this, advances were more in nosological classification than in any other direction, and almost each decade of this period showed some new system of terminology, which caused such confusion in the minds of medical students and practitioners that most of us feared to be confronted with the necessity of a diagnosis in a case of a mental nature. It is only in the last twenty years that scientific study and care of the insane has approached anything like a proper basis.

The first psychiatric clinic, it is true was established in Strausburg in 1872, but our real knowledge of these methods seems to date from the Kraepelin clinic established in Munich in 1904.

In 1913, the first American psychiatric clinic was established at Johns Hopkins Hospital, and since then similar institutions have been established in several states.

In view of the progress being made along these lines in other states, it seems to me that it is well for us to review the local situation and see just where our own state stands in the matter.

Our first state institution for the insane was established in 1872, and there are now three insane hospitals with 557 admissions for the year ending November 30, 1918. The last annual report shows a total of 3703 under care at Lincoln, Ingleside and Norfolk, and the expense of caring for these patients was $817,000.00 for the year. That this expense is essential and necessary no one will question, but there is a grave doubt in my mind whether we are getting the best possible return for the expenditure of such an amount of money.

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

In establishing hospitals for the insane, the State admits its responsibility, but assumes this responsibility perhaps not fully understanding the serious nature of the problem, and certainly without trying, so far as I know, to provide such popular knowledge as would make the problem easier.

The world has not progressed very far from the time when insanity meant "possessed of devils," and the public feeling on the question of insanity is still a mixture of superstition, fear, dread and anxiety, even when the question is purely an impersonal one. When however, the question becomes personal, as it does when a friend or relative becomes insane, there is a feeling of disgrace introduced which makes the question a very hard one to deal with. In the care of an individual who has become insane, the physician finds this feeling in the other members of the family, one of the hardest things which he has to combat, and when the individual must be committed to a state institution, it is the one thing which frequently delays the commitment until the time for favorable treatment has almost passed.

I remember a number of years ago, being called into a home, where, after finishing my visit, I noticed a cot underneath the stairway upon which there was a foul emaciated case of dementia precox. The mother of the patient certainly had troubles enough, but when I suggested that this case was properly a charge of the State, and it would be better for all concerned if he were put in a State institution, it seemed to be beyond her power to think of allowing one of her family to be stigmatized as insane. This stigma of insanity is really a great force among the people generally, and it is certain to counteract in a greater or less degree our efforts, so long as our State laws remain as they are. Before a case can be received at one of our state hospitals, he must be adjudged insane. I wonder if we realize what that means? Complaint is filed, and the individual is taken in charge by the sheriff, usually lodged in jail, and finally a quasi-judicial trial is held by the County Insanity Board, which consists of one physician, one lawyer and an officer of the court. The decision of these three men, only one of whom can by any possible chance have had any training or knowledge of mental diseases, is final, unless perchance an appeal is made to the District Court, which is rather an expensive procedure, and only after all this, is the individual entitled to care in a State institution. To my mind, this is a barbarity equal to that which Pinel and Connolly fought so bravely to overcome.

In private practice we know that among the better class of people, at least in certain types of insanity the prognosis is favorable, provided, they have the right treatment at the right time, but because of this barbarous commitment law, most people are going to delay as long as possible before allowing any member of their family to go through this procedure, be adjudged insane, and taken over by the State.

And when an individual reaches a State institution, he is one, say of four hundred, with three or four physicians at most in charge, and the senior one of these physicians is responsible not only for the medical care of the inmates, but also for the business administration of the institution and everything connected with it. The superintendent really occupies a very anomalous position; he is responsible directly to the Board of Control, and indirectly to the Governor. For a short time, a physician was a member of the Board, but with this exception, the Board of Control has continuously been composed of business men, and it seems but natural, under the circumstances, that in the formal reports, the table of milk and egg production should come many pages in advance of the classification of cases admitted. This is certainly a defect in the administration of the Board of Control, inasmuch as many questions which come before this Board have a medical basis, and cannot be properly considered or decided without authoritative advice from someone who has had years of experience in the proper methods of medical thought.

In view of our present knowledge of insanity, we should have an opportunity to make an earlier diagnosis and institute treatment as quickly as possible in these cases. This is a general rule of medicine, and it certainly applies more thoroughly to the care of the insane than to almost any other class of cases. To accomplish this requires two things; first, a change in the commitment law, so that anyone can be admitted to a state psychiatric clinic for observation on request of the patient himself, a friend, or of the physician, and only adjudged insane after a thorough study by competent physicians, who could, after observation, not only diagnose insanity, but also reach a fair conclusion as to the type and the prospects of recovery. Brutally speaking, a certain proportion of the cases, in the light of our present medical experience, are absolutely incurable and their care would be merely a question of herding, but there are others where there is a fair prospect of cure, and these should have an opportunity for intensive treatment, most of which must be along psychological lines in order to achieve the largest possible percentage of cures. With this idea of commitment established, the second necessity would be a well equipped pyschiatric hospital under the control of a well trained mental specialist, who at the same time would have competent help in various lines of medicine. The initial expense would undoubtedly be high. Such a clinic would necessarily have to be better manned than the ordinary asylum, and the expense of maintenance would be greater in proportion than caring for the same number in an asylum, but the ultimate expense, giving no consideration whatever to the value of restored sanity, would be less than under the present arrangement.

The same method of intensive study and observation would not be amiss in other classes of state dependents, for instance, a certain proportion of the feeble minded are undoubtedly cretins, for which we have an efficacious method of treatment. A still larger percentage of the cases are due to the various forms of endocrine diseases, for which we may hope soon to have a specific form of treatment.

A small percentage are perhaps due to syphilis. This is also curable in a certain proportion of cases and proper observation of these cases in a similar way would undoubtedly lead to greatly improved results.

A like problem is presented by the blind, the deaf and the dumb. A percentage of individuals so defective, will be found likewise defective in mentality. In other words, in an attempt to reach a certain proportion of these cases, much time and effort is wasted, for many of them cannot be reached, and cannot be taught, on account of their mental defects, but a classification of these dependents along the line of the Binet test in the form of preliminary observation would not be without value.

The State already has in the University Hospital, a nucleus for preliminary study of all types of defectives, and with very slight expense could easily establish in connection with the hospital, a psychiatric clinic that would be a model of its kind, and to which could be added at practically no expense, an opportunity for intensive study of the feeble minded children, the deaf, dumb and blind.

Other States have taken up this problem and handled it successfully, and there is no reason why our State should lag behind.

The propaganda of fear which has been broadcast in the land for the last few years has added to the burdens of the conscientious physician in dealing with parasyphilitic disease and is now causing such intense anxiety to the mothers and fathers of defective children, that I feel the problem for the feeble minded child is at present perhaps more important even than the proper care of the insane, and without, so far as I know, any legal difficulty standing in the way, arrangements could be made for preliminary study of defective children at the University Hospital.

Such a study could comprise complete physical examination with Wassermann examination and such metabolic studies as might be indicated. A proper classification based on such a study would, I am sure, find some curable cases, and also be of benefit in the continuous necessary care of the incurable.

May I summarize and say:

1. Nebraska needs a change in the Insanity Commitment law, or at least a modification so that voluntary commitment for the purpose of diagnosis and treatment is possible.

2. A psychiatric clinic such as has been established in other states.

3. We might also go beyond what other states have been doing by providing for preliminary thorough medical examination of all state dependents.

Recognizing the general lack of knowledge of our State institutions among the profession and laity, I have asked representatives of several of the State institutions to present papers at this meeting. I hope for a full discussion of the problems they present, and will consider it a favor if this address is also freely discussed.

Oration on Surgery.*

H. E. Burdick, M. D., David City.

In 1920, at the beginning of a new decade, it is fitting that we should pause and consider the progress or evolution of the Practice of Medicine and Surgery in the State during the past few years and plan for the further advancement in the future. That great progress has been made is apparent and that we are entering upon a period when, even more rapidly, changes may occur is plainly evident.

In the year 1900 it was still possible to become licensed to practice medicine and surgery in Nebraska without the formality of a State Board examination. There were, at that time, excluding the state institutions, eighteen general hospitals with a total capacity of 1091 beds, nearly all of which were located in the larger cities of the State. Some of these institutions were small and poorly equipped compared with present day standards. Very little surgical work was being done outside the cities and the men limiting their practice to surgery were small in number. Those attempting operative surgery in the rural districts were greatly handicapped by lack of facilities and competent assistance in doing work, often being compelled to operate in the private homes of their patients. The lay public were being educated, as it were, to the results obtained from surgical treatment. Indeed, certain conditions now acknowledged by all as demanding immediate operation were debatable questions then among members of the profession themselves.

By 1910 the number of hospitals had increased to fifty-eight with a capacity of 2570 beds. Community hospitals had been established here and there in the smaller towns throughout the state, some under the fostering care and support of church denominations, some through private enterprise or corporation ownership. Physicians and laymen were awakening to the fact that the establishment of hospitals in the rural districts, with facilities for giving prompt surgical treatment, particularly in emergency cases, was becoming an absolute necessity. Many of the smaller hospitals in the cities had been abandoned and replaced by large, completely equipped, modern structures. Surgeons competent to render efficient service were becoming more numerous. Education of the lay public had reached the point where it was no longer so necessary to urge operative procedure when indicated, the advice of the surgeon being, as a rule, accepted without question.

The same progress has continued during the interval of time from 1910 until the present and we now have approximately eighty-two hospitals with a total capacity of 4100 beds within the state. Several new institutions are being constructed and plans for others in the making. What has been true in Nebraska has occurred in other states as well.

Thus through the years we note the evolutionary process until now we have arrived at what appears to be a new era.

The Council on Medical Education of the American Medical Association, in order to increase the efficiency of hospitals and determine the qualification of each institution to grant interneship service, has inaugurated a movement toward the standardization of hospitals. This movement should have the hearty support and active cooperation of each and every one of us. It will not, in my opinion, tend to eliminate the small community hospital, but will have the effect of acting as a stimulus to the executive management and staff organization of each institution to put forth greater effort to increase their efficiency by maintaining proper equipment and giving high grade service, thereby avoiding a low classification.

Through the development of the Roentgen ray, improved laboratory methods and knowledge gained by original research and practical experience, the practice of medicine and surgery is becoming, year by year, more nearly an exact science. In fact, the advance has reached the point where it is impossible for one man to become proficient in all its branches in a lifetime. Hence we find, more and more, students and practitioners devoting their time to the particular study of one of its subdivisions. A committee of the Council on Medical Education of the American Medical Association, in recognition of this fact, has suggested a plan for the development of graduate medical departments in strong universities, where instruction along special lines may be given for a sufficient length of time to enable a medical graduate to become proficient in a certain specialty and receive a degree or certificate of the same.

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

In what manner will this affect the practice of medicine and surgery in the future?

Those who received hospital assignments in the recent war were taught a great lesson, the value of organization and cooperation making for efficiency in the prevention and treatment of disease. A base hospital was composed of one large group of physicians and surgeons, with a specialist in his line at the head of each department, all working in unison. Sole responsibility of a given case was not assumed by any one medical officer, no matter how great his reputation in civil life before entering the service. To illustrate: no officer on the medical side desired an appendicitis case to be in his ward for twelve hours without calling the surgical consultant; none on the surgical side cared to assume the responsibility of the possible development of a post-operative pneumonia without the medical consultant's statement that the lungs were clear before operation. The soldier had the advantage of every method known to science in determining the diagnosis and treatment of his case. What will be the result of this lesson? I believe the answer will be, the formation of a large number of small groups, each member of a group representing one of the specialties, that the same efficiency may be attained and applied in civilian practice as in the military service. Moreover, we have evidence that this will occur in the fact that, already, within the past two years, many groups have been formed.

Should this come true, the standard of surgery as a whole will be raised, inasmuch as practically all surgical work will be done by those specially qualified through education, training and experience for surgery alone.

Nor is the advantage of organization and co-operation within the profession limited to the making for increased efficiency in the practice of medicine and surgery. Recently articles have been written giving warning of the danger confronting us through the possible socialization of medicine, such as now exists in many foreign countries. Without doubt in the near future an effort will be made to establish a governmental department or Bureau of Health. Properly administered this will be of great value to the country. That the greatest benefit may be received by the public, and for our own protection, steps should soon be taken by an organized profession to perfect plans and recommendations to be presented to our representatives in Congress relative to the conduct of this bureau, otherwise we may find ourselves in the position of some of our European breathren.

Politicians will give us scant consideration unless through organization and cooperation we become a political factor which they will be forced to recognize. It has always been quite easy for us to have laws enacted by our legislators when we sought to raise the standards and requirements for the practice of medicine and surgery, but we have not been so signally successful in our opposition to the legalization of the different cults. They have succeeded through cooperation and the exercise of their political power and we have failed through the lack of it. Let us not continue in this error but each one support, by every legitimate means, the work of the standing and special committees of the State Association having to do with matters of public policy, legislation, and medical education.

The Surgical X-Ray.*

Harry Everett, M. D., Lincoln.

Practically every paper read before our medical societies or presented in the literature on Roentgenology has to do with the use of the X-ray as a diagnostic rather than a therapeutic aid.

To one who has watched the development of this particular branch of medical science, the evolution from a mere plaything in the hands of the medical dilletante and the eccentric medical enthusiast, to a sound and firm position among other diagnostic measures has been most interesting.

As has been hinted in the preceding paragraph, those who first seized on the Roentgen ray were men of small calibre and little judgment who adopted it because of its mystery and its fascination for the ignorant layman. Succeeding years, however, found its use in the hands of students and in the hands of those who felt and saw its possibilities.

Today we have equipment and method fairly well standardized and for the most part in use by men as skilled and as broad in their reasoning as in any other department of medicine. The only thing at all disconcerting is the tendency to supplant the older methods of exact clinical investigation with a more or less mechanical application of the X-ray. No matter how great the value of the Roentgen findings, it can never supplant the type and form of clinical examination begun by Skoda and carried out to its full fruition under Neusser in the Vienna school.

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*Read before the Omaha Roentgen Ray Society, March 27, 1920.

No method of laboratory or mechanical diagnosis can ever hope to supplant brains and brains alone. One must not only educate the Roentgenologist in accurate clinical observation but also educate the clinician as to the value of the X-ray results. Only when this is done will we be able to get the full benefit from Roentgenology.

The internist, as always, was the first to see the value of this new mechanical aid. This is not surprising for the average surgeon travels along a rather narrow groove and is not as keen to use his modicum of grey matter as is his fellow—the internist.

It is only of recent years that the surgeon has been much better than the dentist. He has relied too much on his mechanical skill and not enough on his diagnostic ability. Those of us who are lame in this latter characteristic should call in the aid of the Roentgen expert and the careful internist. Just as soon as this is done, the day of the medical juggler and of the cults will be a thing of the past.

It has been my pleasure to grow up with one of our skilled Roentgenologists—for we began when the X-ray was practically in its infancy—have followed many blind trails but by keeping up with the betterments in apparatus and in method—with the added knowledge gained by bitter experience and with the knowledge gained by others in the same field, have arrived at what we think is a fair conception of its possibilities and its limitations.

It is not my purpose to dwell upon the use of the X-ray in diagnosis but rather to see how far we can go with it as a surgical procedure. Only because of the tremendous improvement in apparatus can we apply the Roentgen ray surgically. It is with deep regret that I recall my earlier experiences with the static machine and the smaller coils. Here we had inadequate dosage—no knowledge of proper screening or protection of our patient—and the end result was disastrous. We stimulated active neoplastic growth and rendered the last days of our patients almost unbearable from X-ray burns and necrosis.

On account of the number of papers to be read today and because many or most of them have to do with the technique of the Roentgen ray, I shall avoid this phase of the subject and will be brief in the exposition of my position in regard to surgical X-ray.

With this in mind, I have purposely omitted wearisome case histories and will only state that I can fully substantiate my conclusions with the fullest of clinical evidence.

Before going into the treatment of conditions which formerly were considered wholly surgical, I wish to mention a recent advance in X-ray diagnosis, namely, the injection of oxygen into the free peritoneal cavity. Not only from the standpoint of diseases of the upper abdomen do we gain valuable information otherwise unavailable, but also in the pelvis do we find a clearer, easier picture to read; kidneys, gallbladder, spleen, the subphrenic region, adhesions, the tubes, ovaries, uterus, the retroperitoneal region, all stand out with startling fineness under the fluoroscope and on the plate. Certainly this method must be commended very highly to the careful investigator. One who has not seen its demonstration can not appreciate its possibilities.

Another diagnostic aid neglected by the surgeon, in particular, is the raying of the chest in all cases of cancer. One should always ray in carcinoma of the breast, and sarcoma, no matter where situated. Many a patient apparently fully operable has been subjected to a useless operation because a picture was not made of the chest. Too often the plate shows a snowball lung where the most careful examination of the history and of the patient affords nothing abnormal.

Three recent cases, one a periosteal sarcoma of the lower end of the femur, one an endothelioma of the pelvis of the kidney, an other a cancer of the breast, all apparently early and operable with no evidence of any systemic invasion or deterioration; showed extensive lung involvement and so were allowed to finish their span of life without surgical insult.

This dictum, ray all your chests in cancer of whatever type or form, should be absolute not only with the X-ray expert but also with his colleagues, the internist and the surgeon.

The two earliest applications of the surgical X-ray coming to my notice and tentative-ly adopted by me, were the use of radiation in epitheliomas and cancer of the breast. At first radiation was confined to recurrences and in the vast majority of instances produced the sought for local result. In spite of this a startling number of individuals died from metastasis at some distant point. Here, I do not feel it was the fault of the surgeon or the roentgenologist because the case came late to both.

Thanks to Dr. Bloodgood and his intensive propaganda, patients come to us with earlier diagnosis and are more favorable risks from every standpoint.

I am not prepared to go so far in the application of radiation as the X-ray enthusiast, and prefer to remove the original focus of cancer invasion together with its drainage areas in the most thorough manner and then submit my patient to a painstaking course of intelligent radiation. Certain of our cases have refused removal of the involved regional glands in carcinoma of the breast and face. It must be confessed that even in these cases radiation has apparently prevented recurrence and these patients are living and well today.

In contrast to these, those who had a radical operation thorough and painstaking, with removal of drainage areas and who refused subsequent X-ray, show a greater percentage of recurrences and an earlier mortality. This is true not only in my own personal work but also in the cases that have come to me from the various large clinics elsewhere in the country and whose course to a fatal termination I have been privileged but pained to observe.

Given the choice, a radical procedure without subsequent radiation or the removal of only the original cancer focus with radiation, I should certainly choose the latter alternative for myself. No doubt this sounds like surgical heresy but I have the facts to support it.

A possible contention for this procedure lies in the fact that the original invading focus of cancer grew but slowly and in the face of all the inherent power of resistance, the organism afforded while the invaded glands are of a younger generation and have not the difficulties to contend with that the parent focus had. Any roentgenologist will tell you that a metastasis will melt under treatment where the primary cancer is invulnerable.

The proper ground to take today is thorough operation with thorough radiation. It is even to be anticipated that with improvement of technique the removal of the primary focus with subsequent radiation will become the accepted therapy.

Beck, of Chicago, with his radical operation, with no attempt to cover denuded areas with skin followed by intensive radiation seems to have given us a forward impetus in the treatment of late cancer of the breast.

There is but little to offer in the treatment by the X-ray of cancer within the body. Here the treatment is at present if anything, wholly surgical. Some experimental work has been done with radium, especially in cancer of the hollow viscera and the prostate. Perhaps radium will afford some result; it is useless to expect anything of radiation otherwise. This hope is probably futile for I have yet to see radium accomplish anything that the X-ray will not do better. Observation of the end results in a large series of operations for sarcoma of the glands of the neck; this includes of course, peritheliomas and endotheliomas, has led me to believe that here surgery has no place. It did not matter who the operator was—how painstaking, careful or skillful—a prompt recurrence and a fatal termination were the things to be expected.

I have yet to see an actual sarcoma of the neck successfully removed. When the patient lives I doubt the diagnosis. For many years because of these unfavorable results, I have not operated on what clinically appeared to be sarcoma of the neck. These cases come to me in considerable numbers each year and in every instance they are told that they have a better chance without operation. Some have gone elsewhere for operation and are dead from recurrence; while those that chose the X-ray and who were not frankly too late for any procedure whatsoever, are living and well today. It is admitted that the element of error in diagnosis must be taken into consideration, and I can say only that clinically all of these numerous cases were from every standpoint—sarcoma.

For many years the operation for tuberculous glands of the neck seemed to me to be unnecessarily mutilating and at times unsatisfactory in its end result. In certain patients refusing surgery, radiation was advised and applied with the result that no case of tuberculous glands of the neck is at present operated upon in our practice. With this exception, when the mass is so large that toxic absorption is to be feared, or where the glands are so broken down that drainage must be instituted. Under these circumstances only the removal of the largest mass is done or a local abscess is drained. The case is then turned over to the X-ray man and an invariably favorable result is obtained. Surely no surgeon is justified in doing surgery when a cure can be performed in an easier and safer way. We have extended the use of the ray to those glands subacutely inflammatory, in nature; following acute throat conditions in children, and where the gland has not broken down but persists over a considerable period of time and where the child looks pale and sick and carries some little temperature. One or two radiations will stop the process and cause the absorption of the mass without breaking down or abscess formation.

The use of the cross fire radiation in selected fibroids, or in the myopathic uterus at the menopause, need not be dwelt upon for its value is only too well known. Here a word of caution is necessary, for the X-ray enthusiast seems to think that all such cases belong to his department. Much harm has been and will be done if the cases are not studied carefully and as carefully selected.

One of the most troublesome conditions coming to the general practitioner and later to the surgeon are those unfortunate neuropaths who are entirely prostated at the time of their monthly period and who are almost completely incapacitated between times. Examination shows nothing organically wrong. All sorts of procedures are carried out in hope of relief but with no result. Surgeons are as helpless as are the internists. Cross fire their pelvis as for fibroid until menstruation ceases, send the girl away for a few weeks and you are certain to be surprised at the rosy, blooming, happy creature who comes in to report her condition to you.

The success achieved in the treatment of tuberculous glands and with the subacute adenopathies together with the known ability of the X-ray to relieve pain, led us to try radiation in carbuncle. The result startled us and modified our surgical procedures. For years in the greater number of cases, we, as routine, removed the entire necrotic or necrosing area; our present practice is to make a cruciform incision for drainage and for relief of tension and then submit our patient to two or three radiations. From the time of the first radiation there is relief from pain; a decided lessening of the existing inflammatory infiltration, a rapidly progressing demarcation of the necrosed area. The temperature and other evidences of toxicity disappear rapidly and the patient goes on to an uninterrupted recovery without much surgery and with a minimum loss of time.

When I hear of or see some unfortunate extremely toxic popeyed patient going back to one or another of our famous surgical clinics for a second or third operation for the relief of their alarming and distressing condition, or when I find waiting in my reception room one of my former patients from whom I have carefully removed the greater portion of the thyroid, when I again examine this patient and admit to myself that the condition has been but little, if any bettered, I am forced to conclude that surgery in toxic thyroids does not afford the solution of the thyroid problem. There are but few conditions in surgery which give such wretched and unsatisfactory results. I have never examined a toxic thyroid which has been operated upon either from my own practice or from other clinics and found the patient free from toxic manifestations.

Naturally the question arises, if medicine and surgery offer so little, what can be done? We are in a position today to answer much; and again we call upon the roentgenologist for aid. Careful, cautious radiation combined with as careful management by the internist will obtain results entirely satisfactory to the patient and such results as can be reached in no other way. It is seldom from my experience, that surgery need be resorted to. So firmly convinced am I of this that no patient is operated on without a thorough trial of radiation and medicine. I have also called in my old operated thyroids for further observation and treatment, have had determined the type and form of intoxication. The results of a combination of the X-ray and properly directed medication have closely approached the ideal.

It is to be hoped that in this paper some of the limitations and the possibilities of roentgen therapy have been made plain. No attempt has been made to go into detail for that would confuse the issue if attempted in the time allotted.

The surgical X-ray has an extremely narrow field, due care and caution must be used in its application and even more caution and care must be used in attempts to extend its scope. It must be remembered that in the X-ray we have a powerful weapon and capable of great harm. Harm not only in its use but its misuse. Its administration must not be attempted by any but the most highly trained and skillful individual. A mere technician or one who possesses merely the necessary money to purchase the requisite outfit should never attempt roentgen therapy. You must remember that it takes brains, training, and experience to reach the desired results.

Discussion.

Dr. B. B. Davis, Omaha—I think we have all been very much pleased with this paper, which is very moderate and shows the writer has been exceedingly fair, not only with the roentgenologist but also with the surgeon.

There are two phases of this question. One of them, the diagnostic element, he touched upon rather briefly. The other is the therapeutic. From the diagnostic standpoint, I think all of us agree with the proposition that the X-ray is an exceedingly valuable aid in diagnosis. There has been more or less trouble and a tendency for some to get into lazy habits in diagnosis, and trust too much to the X-ray. I have tried to make out a working basis of my relationship to the X-ray in reference to diagnosis, and that is to take with extreme suspicion a showing in X-ray which is not supported by other diagnostic methods. I think it is our duty to use all the methods possible in arriving at a conclusion. Two or three times I confess I have been tripped up very badly by trusting too much to the X-ray, which has compelled me to make another classification of liars:

First, we have liars.

Second, we have d——d liars.

Third, X-rays that are not interpreted correctly are sometimes the cause of a bad falling down in diagnosis.

So although I use the X-ray right along in every case that seems at all obscure, and we get all the good we can out of it, it must conform somewhat to other diagnostic signs in order to be accepted.

I feel that if the surgeons and X-ray men would get together a little better and do a little more team work, the surgeon going to the X-ray laboratory and studying the plates more; and on the other hand, if the X-ray man would reciprocate and after he has been doing the X-ray work would be present at the operation, it would help all along the line.

Passing to the therapeutic side, we surgeons are too much inclined to depend upon surgery to remove things, because we have been accustomed to do so in the past. Oftentimes, we do surgical operations that might be better treated by the X-ray; and on the other hand, the X-ray man is treating cases that might better be handled surgically. We must cooperate more than in the past.

I had the pleasure of seeing and studying a number of Beck's cases which he had photographed, showing the condition that existed before he began the radiation by his method. It is startling the results he seems to have produced, extending over a long enough period to mean something. His argument is that the almost impermeability of the skin to X-rays shows definitely we must modify our methods where the trouble is beneath the skin.

Take a secondary carcinoma of the breast with a great amount of tissue involved. If we would remove the entire surface and let the X-ray come in contact with the tissues, I think it would accomplish a great deal.

It seems to me there are several problems here the X-ray men and surgeons must work out together.

Dr. E. H. Skinner, Kansas City, Mo.—I do not think I have ever listened to a paper by a surgeon which would please the heart of the X-ray man any more than this paper of Dr. Everett's. I do not think I ever heard a paper by a surgeon or roentgenologist which showed a more honest and earnest and conservative attitude to both. I think it is remarkable that you have in your community here a gentleman and a physician and surgeon who is able to sift out the true from the untrue. I think it is one of the most splendid papers which brings together a lot of facts which have been written on extensively by roentgenologists and by surgeons, and the doctor has been able to pick out the wheat from the chaff.

There is one point I want to discuss in the method of radiation which has received an impetus through Dr. Beck. It is well for us to know certain factors in his method of treatment before we are able to judge. Dr. Beck and his roentgenologist, have never worked with the Coolidge tube in deep roentgen therapy. That is a very significant thing to roentgenologists. It may mean nothing to the surgeons. The work Dr. Beck has done will have a subsequent report, which will probably change, or at least decrease the hopefulness which I had myself at first when I read his article in the S. G. & O. They use a water-cooled tube and a piece of paper for filtration. I saw Dr. Eisen in February, and he said they had one serious effect in radiating a breast in which all of the bony tissue of the ribs had disappeared in the radiated part. So they are bound to modify their method.

I think roentgenologists who have used a Coolidge tube over a period of years and are able to attack their recurrences with vigor and courage are able to show the same results that Dr. Beck shows with removal of the skin. So I do not think we ought to judge yet upon the advantages or disadvantages of Dr. Beck's work. It opens up a new field, and in the discussions of this before the Western Surgical Association I think I find the appreciation of the roentgenologists for that presentation, because it gives us courage to go ahead. If we do get some reaction upon the skin, this method as presented by Dr. Beck gives us courage to go ahead and pursue it without fear and with great courage and much vigor.

Dr. W. L. Ross, Omaha—I want to congratulate the society on the paper. Those of us who are pioneers in X-ray therapy surely feel a great deal of courage. I remember the time when I began treating carbuncles, I did so with great fear and trembling. I had no literature and knew no one who was treating carbuncles. Now it is a comfort to have even a surgeon say that.

Wherever you have a local focus of infection, it is all right to treat it with the X-ray; but are you treating a primary or secondary infection when you treat enlarged glands? The user of X-ray therapy does not shoot away with the Coolidge tube and think he is done. He must watch his results, and if he is not getting the proper results he must think possibly he is treating a secondary infection instead of a primary.

Another thing I wish to thank the doctor for is the fact that he acknowledges and encourages our treating acute forms of infection, not only in the treatment of the carbuncles of the neck.

I want to emphasize early diagnosis as the thing sought for today, and we must use every known method, either laboratory or physical diagnosis or case histories, to arrive at an early diagnosis. The earlier the diagnosis, the quicker the results of X-ray and surgery.

I was glad to hear him say X-ray is of value in deep seated pelvic organs. Acute infectious diseases are just as easily handled with the Coolidge tube and proper treatment as those superficially located in the neck.

Since Dr. Bloodgood taught us to distribute that wide knowledge among our patients that we should see a cancer early in order to be of great benefit to them, the patients are coming to us early with a little lump or any enlargement. If it is true that primarily a cancer is a local thing, then your chances for doing the patient good in X-ray treatment are just as advantageous as to the surgeon. Emphasize this fact: After a major operation for cancer of the breast and a recurrence in any of the scar tissue, they will invariably recommend the X-ray instead of a second operation. If X-ray will kill a cancer cell after operation, why aren't we justified in believing it will do the same things before operation?

Dr. Everett—I want to emphasize the point that too few surgeons use X-ray therapy, and I want to emphasize the point that too many X-ray men overdo the roentgen therapy. I do not believe, Dr. Ross, that any man is justified in treating a primary focus of malignancy, especially in the breast, by the use of the X-ray. I tried to make it clear that the primary foci arose under the greatest difficulties, and hence had an extreme handicap to external influences; while the metastasis has much less resistance to external influences and hence would yield to the X-ray.

Surgery of the Thyroid.*

C. A. Roeder, M. D., Omaha.

In speaking of goiter we mean an enlargement of the thyroid gland. To be precise we must distinguish the type of the enlargement. All enlargements are not the same; they have different clinical pictures, different etiology, different pathology, different treatment and different end-results or post therapeutic or post operative morbidity. A patient sent to the surgeon with a goiter comes on no more definite mission than one for abdominal trouble.

Knowledge gained from the study of any organ depends entirely upon its known physiology enhanced by familiarity with its embryologic origin. Biology and embryology are so closely related that to refer to one without the other renders a description most incomplete. The thyroid gland develops from a single bud of hypoblast from the center of the ridge between the first and second pharyngeal grooves. The gland develops in the first few weeks of fetal life and at the end of the fifth week has descended to its normal site, with the thyroglossal duct still patent but divided by a constriction due to the hyoid bone, which by this time has become completely cartilaginous. The duct generally passes posteriorly and rarely thru the bone. Occasionally the bone develops sooner and interferes with the descent completely or partly, of the gland causing a development of the gland entirely at the base of the tongue or stringing out portions of it; resulting in the so-called pyramidal lobes so frequently seen lying in front of the larynx. The gland remains inactive during fetal life, taking on activity shortly after.

The biologic aspect of this gland is intensely interesting and has received more study than any other portion of the endocrine system. Where or when did the gland originate in this great scale of development of organisms? We know the lowest form of vertebrate, the amphioxus, has not a true thyroid but a pre-thyroid, otherwise known as the endostyle. (Huxley). Going slightly higher we find an organism known as the lamphrey, one of the chordates, which in its larval form has a gland at the base of the tongue with open communication with the pharynx; which later in its adult stage has become a gland without a duct and occupies a position more toward the anterior portion of the neck. Biologists have decided this to be the earliest thyroid known, and in these early stages it acted also as a sex gland. (Gaskell). We know that all vertebrates have a thyroid from the chordates or lower vertebrates up thru fishes, amphibians, reptiles, birds and mammals. Through its antiquity biologically and its early development embryologically we know that we have a gland of the greatest economic importance;

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*Read before the Douglas County Medical Society, Jan. 20, 1920.

since born without it you all know what a primitive type of animal the cretin is.

Its function in the jawed vertebrates is probably metabolic, but this feature studied in its ontogeny seems to indicate that far back in the remote past before it had assumed its characteristic form it had another function which stood in some direct relation to the mouth. The structure and anatomical relations of the system of organs within and surrounding the mouth from the tunicates (sea squirts) up to present man, are quite consistent with the view that they were originally acquired for the purpose which they now serve—the capture and partial preparation of food.

In presenting this subject in one paper one can only touch the highest points, but the following theory might be of some interest. We know that the lower the animal the straighter the gut, with a corresponding lack of digestive glands and retarding sphincter muscles; allowing the current of food to pass through faster and requiring a more rapid action of digestive juices. In spite of Gaskell's theory, which suggests a sexual function only, I can not help but feel that the prothyroid or endostyle had in addition, a retarding effect on the passage of food through slime secretion or delivered an active digestive juice to help assimilate the food. When the gut became longer and the feeding became intermittent, with the development of more active and complicated glands of digestion, this prothyroid gland became unnecessary; but instead of becoming atrophic, assumed the role of a metabolizer of internal chemistry; necessitated by the fact that the animal had become warm blooded through terrestrial habits and required a more refined method of metabolism. This theory has been recently more strongly suggested by the important work of Kendall and Plummer. It may have some close relationship with the carbohydrates primarily, as proteid and fats were used long before the former.

Pathology.

We must place a great deal of credit to Plummer, McCarty and Wilson for a comprehensive report on the pathology of the gland, enhanced tremendously by showing a definite clinical relationship to a definite pathological state. Up to this time we read of the terms struma, thyroiditis, etc., all indefinite and indicating a chaotic state of mind regarding the morbid anatomy. Struma was meant for an enlargement and thyroiditis was used so indefinitely that it was impossible to know just what was meant. In speaking of goiter or struma we must designate the clinicopathological state, and as for thyroiditis or a true inflammation it must be considered very rare. I do not believe there are over half a dozen cases of thyroiditis in the pathological museum at Rochester, which contains over 16,000 specimens of the thyroid alone. Acute thyroiditis, also uncommon can not be considered under the term goiter.

Pathologically enlargements of the gland can be divided into benign and malignant conditions: the latter representing about 1%.

A Benign
  (1) Colloid
  (2) Adenomatous
  (3) Hyperplastic

B Malignant
  (1) Carcinoma
  (2) Sarcoma
  (3) Epithelioma
  (4) Endothelioma
  (5) Metastic Normal Thyroid
  (6) Metastic Colloid Thyroid

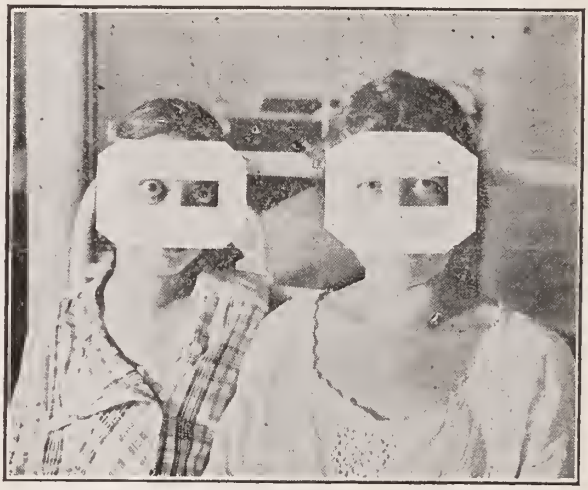
The colloid goiter is a uniform soft enlargement, rarely of marked degree, occurring at any age, particularly in adolescence of females, but not infrequently following a non-surgical cure of a hyperplastic (exophthalmic) gland. With the advent of the X-ray and radium we may see more colloid goiters if cure of the hyperplastic gland results from such therapy, owing to a deposit of connective tissue shutting off the absorption of this toxic goiter. These goiters (colloid) show a uniform retention of colloid and the alveolar epithelium is flatter than normal. Occasionally many vesicles coalesce, forming cystic cavities of small size.

Marine, after studying several thousand school girls, has given us a most convincing proof of a colloid gland's physiologic significance by showing definitely the value of feeding 2 grammes Na I in spring and fall as a preventative of the colloid goiter so frequently seen in the young female. The treatment of such glands under 20 as a rule is non-surgical, as many of them disappear without any therapy, while others are helped by iodine and thyroid extract. All foci of infection, particularly diseased teeth, tonsils and sinuses, should be eradicated. The colloid goiter in the adolescent must be looked upon as hyperfunctioning normally, owing to an increased demand from nature, and in addition to eradicating all infections, all abnormal stimuli should be reduced or done away with, because a gland in this state is overactive and is not far from a hyperplastic state or exophthalmic goiter. I have one case in the hospital now of a 14-year-old girl whom I saw nine months ago with a definite simple non-toxic colloid gland of adolescence. Four months later she developed suddenly an exophthalmic goiter and became dangerously ill. Patients in the adolescent age should be watched carefully if they have a colloid goiter, remembering that such a gland is prone to become toxic between 17 and 21 years. Later in life such goiters appear with increased metabolism of pregnancy, with or without hyperfunctioning, and frequently give rise to damaged hearts between 35 and 40. After 40 fully 30% cause an increased blood pressure and then they should be actively treated medically, radiologically or surgically, depending upon the patient or her physician. It would be most interesting to settle a long dispute by comparing results two years after these various methods have each treated 100 cases of each type of goiter.

There are about ten case reports in the literature of colloid metastasis from colloid goiters, found in bronchial nodes, mediastinum, lungs, femur and lumbar spine. It is the most striking anomaly in all pathological studies. The walls of some blood vessels in the goiter were reported necrosed from pressure by colloid vesicles, possibly accounting for the condition. Metastases even from normal thyroid glands have been reported, but I could find no authentic study on the gland, so we do not know if it were really non-pathologic. The basement membrane of thyroid alveoli is very thin, if not absent, allowing an increased mobility of the epithelium. This independent growth of lobules and vesicles is most clearly shown in the dissemination of thyroid acini in the fish and of accessory thyroids in man.

The next type of goiter to be considered is the adenomatous, and unlike the colloid or hyperplastic types which are uniformly pathological, presents numerous abnormal pictures. The vast majority do not develop under 30, but occasionally, due to fetal remnants, may develop even earlier than the colloid, i. e. before puberty.

These fetal remnants are not those of Cohnheim but are localized areas of fetal thyroid tissue whose alveoli have never developed; presenting a solid mass of epithelial cells with only a suggestion of an alveolar arrangement. The adenomatous goiters are more frequent than any other type in the adult and are due to growth and degeneration of fetal thyroid masses or to infections of localized areas of the gland which become surrounded by increasing amounts of connective tissue until their blood supply is so interfered with that they degenerate and give off toxins of partial necrotic tissue. They are represented by the nodular type and frequently degenerate into cystic, hemorrhagic, hyaline or calcareous types, and are occasionally single, but more often multiple. If this type develops under 20 it is usually single and made up of fetal tissue. Taking the same stimulus applied to a fully developed normal thyroid and one containing fetal rests, we will probably have a colloid goiter and an adenomatous goiter respectively (Plummer). This has been corroborated by clinical experience.



Two cases of exophthalmic goiter. On the reader's left is one "cured" without operation. Note the extreme exophthalmos, which is permanent and the small sized gland. On the right illustrating an early case of exophthalmos. Note the small sized gland. Both cases were operated upon with excellent results, with the exception of the extreme exophthalmos in the former, which will never disappear.

The multiple nodular type is most prevalent between 30 and 50 and becomes equally toxic or non-toxic. Epithelial malignancy develops from this type more frequently than any other and many pathologists claim from this type only, and I have never seen nor heard of malignancy developing from a normal or a hyperplastic gland. Patients present themselves for treatment with these nodular or adenomatous goiters for (1) pressure symptoms, (2) toxic symptoms, (3) malignancy and (4) cosmetic reasons. Pressure symptoms are due to pressure on the trachea either in the neck or substernally and may develop to an alarming degree. Only adenomatous goiters cause marked pressure symptoms and only this type develops substernally. Substernal pressure is evidenced by obstructed respiration, hoarseness and dilated veins in the neck. Percussion may elicit dullness near the upper end of the sternum but the X-ray is the most valuable help in determining substernal adenomata.

Fully 25% of these nodular goiters become toxic after being present for an average of 14 years. The toxin attacks the heart muscle and causes an increased systolic pressure without a corresponding rise in the diastolic, resulting in an increased pulse pressure. This is also true of the toxic exophthalmic goiter with this difference, that the blood pressure never rises so high. After these adenomatous goiters have been present for some time with an increased systolic and pulse pressure, a valuable sign indicating the onset of permanent cardio-vascular damage is a rise of the diastolic pressure with a decrease in the pulse pressure. The clinical condition now presents a new symptom-complex and is less benefited by surgery, although by no means hopeless.

These cases of toxic adenomata present many symptoms resembling exophthalmic or hyperplastic goiter. Their eyes may confuse on casual examination but on more accurate inspection they are seen to stare only and do not present the signs so well known and described by Stellwag, Graefe and Mobius. That is, there is no exophthalmos, no lagging of the lid nor lack of convergence. The heart is fast but more irregular and there is a tremor, but it is coarser than in the exophthalmic, and although the skin is generally moist, it has a colder and more clammy feel. These patients do not lose weight as much and the appetite does not range above nor fall below normal. The course is more regular and the toxic adenomatous cases develop their maximum symptomatic state insidiously on an average of 14 years. The course of an exophthalmic goiter is more irregular and develops its maximum symptomatic state much more spectacularly and on an average of 9 months. All toxic goiters develop in time a systolic murmur heard loudest at the fourth left chondro-sternal junction. Its pathological anatomy has never been understood and is frequently taken for mitral stenosis, regurgitation, an aortic lesion or a functional pulmonic murmur. It generally disappears after operation.

The most successful treatment of these cases is a double resection of the gland as originated by Mikulicz. If the damage to the cardio-vasculo-renal system has not passed beyond repair the recovery is most startling. I have seen the systolic pressure repeatedly drop over 100 points in two weeks with all other symptoms clearing rapidly. It is the most difficult but most gratifying type of goiter to operate upon. They represent fully 45% of all goiters in adults which are not exophthalmic and fully one-half were originally fetal adenomas.

Since we have been describing goiters due to tumor formations, a consideration of malignancy of the thyroid will not be out of place here, leaving the exophthalmic type to the last. Malignancy of the epithelial type occurs practically always in pre-existing goiters of the non-exophthalmic type, and in no other portion of the body is early malignancy so well concealed. There has never been a report, as far as we can determine, of carcinoma developing in a normal thyroid or exophthalmic goiter. It occurs in about 1.5% of colloid and nodular goiters and about 70% occur between 40 and 60. Epithelial malignancy or carcinoma presents four distinct types. (1) the first type shows masses of small alveoli without a definite lumen growing irregularly and with much variation in the size of the cells, and sufficiently atypical to indicate the presence of a neoplasm. Here all the alveoli, although atypical, seem to proliferate alveolar epithelial carcinoma. It probably develops from fetal adenomata. (2) The second type shows epithelium in uniform masses projecting into a large lumen as papillae. The cells are large and quite regular. This is known as papillary epithelial carcinoma. (3) The third type shows irregular masses of proliferating cells growing like solid carcinoma elsewhere. This is known as plain carcinoma. (4) The fourth type is one of the most perfect examples of Cohnheim's theory of misplaced embryonic tissue as the factor in tumor formation. Occasionally the thyroid in its descent from the tongue carries with it some squamous epithelium. In after years when this epithelium proliferates a squamous cell tumor or epithelioma develops in the thyroid. This is known as epithelioma of the thyroid. There are not over ten cases reported in the literature and I have one now, removed from a patient two years ago.

Sarcoma is not infrequent, Ehrhardt collecting 150 cases of carcinoma with 99 sarcoma, but that does not accurately indicate the proper proportion. Kocher states that the thyroid is one of the main sites for acute sarcoma and, to be unusual, comes chiefly after 40. The gross anatomy resembles carcinoma so closely that a microscope is necessary for differentiation. Endothelioma only deserves mentioning.

One should think of malignancy when a goiter grows suddenly and becomes more solid with an increased fixity; excluding, of course, hemorrhage, syphilis and thyroiditis. Since it develops from within outward, by the time pressure symptoms, hoarseness and palpable findings are present it is generally inoperable. One should become suspicious during an operation when increasing signs of malignancy are present as the operation proceeds. The trachea is flattened as a rule antero-posteriorly, owing to the rapid spread through and with the contraction of, the isthmus. The whole gland must be removed if possible and radium placed immediately in the former site, followed later by extensive X-ray.

Up to this time I am sure no one with a knowledge of the pathological anatomy can dispute the indications, just stated, for surgical procedures, as being the best form of therapy of the above mentioned goiters. We come now to a condition long known as exophthalmic goiter, more recently and more properly called hyperthyroidism, and due to a so-called hyperplastic gland. In this condition the thyroid presents a quite uniform red beefsteak appearance in gross, and under the microscope shows the alveoli more or less enlarged, lined by a single row of columnar epithelium and no colloid. Remember the normal gland presents cuboidal while the colloid flattened epithelium. One of the most remarkable discoveries, demonstrating a close relation of the pathological anatomy to the clinical symptoms, was brought forth by Plummer, Wilson and McCarty a few years ago in their studies of exophthalmic goiter. They demonstrated a constant parallel of the pathology in all its stages and development and regressions with similar stages of development and regression of clinical signs. That is, Wilson and McCarty through the microscope alone, without seeing the patient, could tell accurately whether or not it was an exophthalmic goiter, and Plummer beforehand could tell exactly the type of cell to be found under the microscope.

It is this type of goiter which has caused so much dispute between the surgeon and internist, and lately the radiologists have, and to a certain extent deservedly, joined in. Now we must all remember that about 10 to 12% of all exophthalmic goiters or more properly the condition of hyperthyroidism, which is a purely hyperfunctioning condition, is self-limited; nature relieving the patient of it in 9 to 24 months. Another point we must all remember is that 99% of these cases have intervals followed by exacerbations; that the symptom-complex comes in waves, reaching its height in about 9 months on the average. Putting these patients to bed with any kind of non-injurious medical treatment, X-ray, radium or with no attention outside of an abundance of food, will cause a marked recession in all symptoms and signs and a considerable number will be so much improved with the great help of nature, which naturally tends to self-limit everything, normal and abnormal, that they are sent home as cured. But they return, to another physician usually, because of an exacerbation with a less tendency to assume a conservative cure. The exacerbations of hyperthyroidism resemble those of chronic gastric and duodenal ulcer. Many an internist has been deceived by nature with the help of his regime, in reporting these ulcers cured when an interval which was bound to come, presented itself.

Now there is an important place for the internist, neurologist, radiologist (X-ray and radium) beside the surgeon, but each one must understand the pathological anatomy present and they must do away largely with the balance of knowledge of living pathology, always in favor of the surgeon because he first discovers and teaches it, and sees and handles it almost daily. When this balance of knowledge of pathological anatomy and physiology is more evenly distributed, teamwork will start and never before, because teamwork requires a unity of opinion. Ask a general practitioner when he learns more about a case of appendicitis, that is during his conservative treatment, or following the operation, assuming that he performed both.

Another thing every one must remember is that hyperthyroidism was first brought about by an increased demand on the thyroid, and that the increased secretion in turn further activated the gland, making a vicious circle. The surgeon when he operates only breaks this circle, the internist unknowingly causes a less demand on the function of the gland, while the radiologist with an unknown force attempts to block the vessels through an endarteritis and increased formation of connective tissue. Therefore, there has been devised no scientific cure of exophthalmic goiter.

I think the internist is a valuable associate in the treatment of this disease; that the radiologist also is a help sometimes in helping to prepare for operation; but that surgery should be applied to all cases above a very mild character, whose etiological factors have been strongly suggested and eliminated without relieving the patient. It is impossible to describe the patient's resistance toward operating, which only comes from experience. Beginning with the severest cases we first use rest, cold sometimes, X-ray, hot water injections, single and multiple ligations and last, resection of a large portion of the gland.

When a patient gets well without surgery there has been brought about a less demand for the gland's secretion, from some remote overactive or underactive region. When a patient is cured by an operation the remote demand for an overabundance of thyroid secretion may have abated beforehand and the surgeon relieved the gland from an overabundance of its own self; breaking the vicious circle and reducing the secretion to an amount compatible with a more normal metabolic functioning within the organism. When the surgeon fails to cure, the remote demand is still at work and hyperthyroidism will persist, or, as Plummer states, "When an operation fails to cure a case of exophthalmic goiter the patient still has exophthalmic goiter." Some day internal medication will assume complete control of this hyperfunctioning condition, but it must wait for an advance in physiological chemistry and until then surgery presents the best results.

Exophthalmos may develop early or late in hyperthyroidism and is a characteristic sign, but one must remember that this condition is occasionally found with other lesions. Myopia may cause exophthalmos of a mild degree; nephritis and myocarditis are rarely associated with this condition; while tumors in the orbit and arterio-venous aneurysm frequently cause it. In myocardial disease there is an indescribable staring with a slight widening of the palpebral fissure, which not infrequently is mistaken for an exophthalmic goiter, when a goiter is actually the cause of the heart lesion. The actual cause or physics of exophthalmos with hyperthyroidism has never been understood and the nearest solution to the problem is the theory advanced by Landstrom of Stockholm. He described a nonstriated circular muscle attached to the eyeball posterior to its center and inserted into the anterior margin of the orbit. When contracting it pulled the eyeball forward. He thinks the hyperthyroidism stimulates this muscle.

The longer exophthalmos has been present the less likely will it recede, but when it does it is one of the first signs to disappear after operation. Jaboulay in 1896 introduced the operation of removing the superior and middle sympathetic cervical ganglion in order to produce a relaxation of the upper lid. This operation is occasionally successful. Cannon stimulated the cervical sympathetic in cats and produced exophthalmos on the same side.

The cervical sympathetic is the sole nerve supply of the thyroid and in patients over 40 who have not hyperthyroidism the cells of these ganglia are occasionally degenerated—probably due to infection. Very rarely under 40 do we find this condition. From 16 cases of hyperthyroidism all under 35, Blackford and Wilson found the cervical ganglia showing nearly all their cells degenerated. This seems to be a frequent association with hyperthyroidism.

The thymus is frequently spoken of as being hyperthrophied in hyperthyroidism and has been recommended for removal as a cure. Blackford reviewed 1096 carefully performed, studied and recorded autopsies on people without goiter and found a marked hypertrophy of the thymus in .6%, three of these dying of sarcoma elsewhere, but a well known relationship. In about 35 deaths, with or without an operation, from hyperthyroidism in patients under 40, he found a marked hypertrophy of the thymus in about

75%. He thinks it is present in all younger patients with exophthalmic goiter. Less than 50% of those dying over 40 of this disease showed an hypertrophied thymus. He studied 74 cases.

The parathyroids occupy a most important role in surgery of the thyroid owing to their anatomical propinquity solely. They develop from the 3d and 4th branchial clefts and through convenience of arrangement only, are placed posterior to the capsule of the thyroid, receiving their blood supply mainly from the inferior thyroid artery. Tetany results from their removal and mild forms occasionally develop when both inferior thyroid arteries are ligated outside the capsule. These mild conditions rapidly subside; the more severe types are benefited by parathyroid extract plus calcium.

A description of the technic of operating is out of place here because to those who operate it would be superfluous, and to those who do not, uninteresting.

The Doctor and His Cost System.

A. F. Tyler, B. Sc., M. D., F. A. C. P., Omaha.

The program committee assigned this subject to me so that it is not one of my own choice. I have of course been very much interested in the subject from a personal standpoint for a number of years, due to the fact that the specialty which I am practicing necessitates the investment of a large amount of capital and a very large overhead expense. This condition forced me early in my career to try to run my office upon a sound business basis.

Since the subject was assigned to me, for preparation of this paper I have made earnest endeavor to get statistics from different sources which might help me in presenting this subject to men in other lines of practice. This endeavor has resulted in a very meagre accumulation of help. In spite of the federal income tax having been in existence for several years the federal statisticians have never seen fit to classify the incomes to show the kind of business in which the payor is engaged. Conversation with physicians at different times has revealed to me the fact that many doctors do not give this subject a very great amount of thought. This is especially well illustrated by the fact that many of them will make the remark that they have made so many thousand dollars the past year, when they really meant that they had collected this amount. This looseness in terminology leads me to conclude that they have not differentiated between the gross receipts and the net income. Due to this lack of clearness on the part of many with whom I have talked, it will be my purpose to try to clarify the atmosphere.

There are many in the audience who know a great deal more about this subject than I so that what I may say will probably seem trite to some and may seem new to others. I hope, however, that what I may say will be received in the spirit in which it is given. It is only by talking these matters over frankly that we can arrive at proper conclusions.

The cost of doing business includes all expense made necessary by the transaction of that business. This axiom holds good in a profession as well as in a commercial line. In a profession, certain elements enter into figuring the cost system which do not enter into figuring the cost system in commercial business. Amongst these I might mention that a professional man should charge off as overhead expense, interest against the cost of his education. He should also charge off a percentage of his receipts for repayment to himself of the debt incurred in securing his education. It appears to me that an entirely satisfactory manner of figuring this debt payment is to base it upon an average active medical career of twenty-five years. That is, one should charge off 4% of the entire cost of education each year so that at the end of twenty-five years he will have the entire sum repaid to himself. I think that it will not be exaggerating to estimate the cost of a medical education at $16,000, so that in the table which follows we shall use this is a basis of computation.

Medical men are necessarily men of rather mature years, entering into the productive period of their life rather late. This is made necessary by the long period of preparation one must have before beginning the active practice of medicine. When one stops to think that not only the actual outlay of $16,000 is made necessary to secure a medical education, but that this amount only gives the training while passing through a non-productive period extending over not less than eight years after graduation from high school, one will readily see that the economic cost to the state of producing a doctor is far more than the actual $16,000. This means that a doctor is really a high salaried man. So I think it very modest to say that when he has been practicing ten years, he should be able to pay to himself a salary of $10,000 a year. This must be taken into consideration when figuring his cost system.

Statistics gathered by the United States census show that twenty-five percent of the physicians in the United States are between the ages of thirty-five and forty-four years of age. The United States report shows that the average number of people in the entire United States for each doctor numbers seven hundred. The number of people in the state of Nebraska for each doctor numbers five hundred and eighty-three. The number of people in the city of Omaha for each doctor numbers three hundred and thirty-two. There are no statistics available in the United States census bureau on the average income of physicians. One of the enterprising newspapers of Richmond tried to collect statistics for that city. Among those whom they investigated, they found that the average income was less than $2,000 per annum. There are three hundred and thirty physicians in the city of Richmond and of these three hundred and thirty, only thirty-two reported incomes above $4,000. The state of Wisconsin has a state income tax law in addition to the federal income tax law, so that some information can be gotten from that source. In the state of Wisconsin, the average income for physicians for the past year was $1,488. This is not quite as high as the average income for lawyers and is not quite as high as for business men in the state of Wisconsin. It ranks about the same as the income for the teaching profession. Either the statistics above quoted are misleading, or else many doctors have been deceiving themselves as to the amount of their own income. Of course there have been men of international reputation specializing in some lines with very large remunerative practice whose incomes have been thought to be very large. As an illustration of this type we might mention the late Dr. John B. Murphy who it is said, left a fortune of half a million. This of course is no small amount, but when compared with the fortunes of men in large businesses who have a similar relationship to the other men in the same line that Dr. Murphy had to the other members of the profession, men like John D. Rockefeller and J. P. Morgan, it will be seen that this accumulation of half a million is very small, relatively speaking. Of course the practice of medicine is a profession and an art and is not a commercial business.

In these days of the high cost of living, however, a successful physician must combine a certain amount of business sagacity with his profession in order to prepare for the rainy day of old age. In conversation with a considerable number of Omaha physicians recently, relative to the overhead expense which they have been carrying during the past year, I have found that most of them average from 20% to 35%. Some even run as high as 55%. In comparison with that I might mention the average overhead percentage carried by different lines of business; the furniture business runs about 30%, retail grocers expect to do business on a 21% overhead; this low percentage is due to their quick turn-over which is not possible in the furniture business. In contrast to those, I might state that the overhead expense of the Omaha Public School System is one-fourth of one percent. In order that we may have a definite basis upon which to figure our expense account, I submit herewith a tentative outline which I think will cover most of the expense of the average physician no matter what line he may be practicing.

INVOICE

Cost of Education @ 7%	$16,000
Retiring debt to self @ 4%	$16,000

Equipment (total amount accumulated during past 4 years):
  Instruments
  Books
  Depreciation @ 25%.

Furnishings (total amount accumulated during past 5 years):
  Depreciation @ 20%.

Auto depreciation @ 25%.

UPKEEP EXPENSE.

Rent

Office Help
  Stenographer
  Nurses
  Medical Assistants

Office Supplies
  Drugs
  Surgical dressings
  Laboratory supplies

Office Stationery
  Printing
  Postage
  Reprints
Telephone—Office + ½ house.
Telegraph
Light
Power
Insurance
Collecting
Petty Account
Auto Expense
  Oil
  Gas
  Repairs
  Insurance
  Chauffeur
Taxes on office equipment
Interest on money borrowed to use in business.

EXPENSE TO PROMOTE PRACTICE.

Clubs
  War tax on membership dues.
Periodicals
Railroad expense attending clinics.
Expense giving clinics.
War tax on theatre tickets, sodas, etc.

If one will take the entire year's overhead expense and carefully estimate the number of actual working hours during the year, it is quite easy to arrive at the cost of doing business per hour. This will give one an accurate idea of the relationship between his cost and his charge per call if he is in general practice; or if he is a specialist it will give him a pretty accurate idea of the charge he should make per hour for his services.

The late Nicholas Senn when asked the secret of his success replied, "I work hard and put all my earnings back into my profession." A talk recently given by a banker to a number of physicians, brought out the following axioms which we think are apropos: First, earn a dollar and get it. This puts service first. Second: Get a dollar and save a quarter. Third: Save a dollar and earn 5%. Fourth: Be satisfied with 5%. Racing the engine ruins the motor.

Thus far, we have been describing this subject from the view point of the physician. I do not think it out of place to try to give a few remarks from the view point of the patient. The patient feels when he comes to the doctor that he is entitled to the best service that the profession can give. In these days of extensive specialization and intricate methods of examination made necessary for a thorough diagnosis, it changes the economic aspect of our practice considerably. A thorough diagnosis requires the work of many specially trained men. In order to give the patient the benefit of all these things, some sort of economic arrangement will soon be made necessary. The doctor must think of these things and prepare for them or the state will in the near future socialize our profession. The springing up of the group system of the practice of medicine is an answer to the demand of the public for complete examination at a reasonable figure. By this scheme of practice, the overhead cost of examination can be brought to the minimum by quantity production. When quantity work is done the overhead expense can be considerably reduced by the employment of non-medical help in certain lines. There is no reason why a $10,000 doctor should spend his time in cutting sections, in examining urine, in pumping patients' stomachs, and things of that kind. For this routine work a graduate nurse or some clever young woman who is interested in work of a medical nature can be trained to do it with equal or greater efficiency than the average physician. Patients who are receiving a small salary and supporting themselves and family, can be given the advantage of having it done at actual cost. That is, in figuring the cost to these patients no salary for the man in charge should be allowed. This matter of the chief giving his time to this class of patients can be compensated for in the charge against some one of greater means. This scheme will not work a hardship upon the patient and will not work a hardship upon the physician.

The suggestions here given, I hope will be of some value. The question is before us for solution and we must face it squarely or suffer the consequence. Postponing action will not help us materially. Let us think the matter over together and see what is best to be done.

Report of 5,000 Wassermann Tests With Observations.

E. T. Manning, M. D., Omaha.

The following is the report of 5,000 Wassermann tests made from March 1st, 1919, to March 1st, 1920. The source of the material were: Specimens provided by the University of Nebraska Hospital; the University of Nebraska Dispensary; the Douglas County Hospital; the office of Dr. A. D. Dunn; specimens sent to the Nebraska Laboratory from Omaha and surrounding towns; specimens from the Women's Dentention Home in the city of Omaha, and a miscellaneous group. The table of results with percentages follows:

Table I.

	Total	Neg.	Percent	Total Pos.	Percent	Spin. Fluid	Neg.	Percent	Pos.	Percent
Dr. A. D. Dunn	1316	1048	79.6	268	21	50	38	76	12	24
Nebraska Laboratory	1198	766	64.7	432	35.8	110	80	72.7	30	27.2
University Hospital	818	625	76.4	193	23.5	92	53	57.6	39	42.4
County Hospital	347	238	68.5	109	31.3	50	33	66	17	34
Dispensary	664	411	61.9	253	38.1	1			1	
Detention Home	226	54	23.8	172	76.2					
Miscellaneous	115	69	60	46	39.9	19	14	73.6	5	26.3
Total	4684	3211	68.5	1473	31.5	322	218	67.7	104	32.3

Table II. Analysis of Positives.

	One Plus	Percent	Two Plus	Percent	Three Plus	Percent	Four Plus	Percent
Dr. A. D. Dunn	103	7.8	80	6.8	31	2.3	54	4.1
Nebraska Laboratory	100	8.3	106	8.8	68	5.6	158	13.1
University Hospital	52	6.3	63	7.7	29	3.5	49	6
County Hospital	19	5.4	36	10.3	17	4.9	37	10.6
Dispensary	79	11.9	63	9.5	35	5.3	76	11.4
Detention Home	30	13.3	53	23.4	40	17.9	49	21.6
Miscellaneous	17	14.8	9	7.8	4	3.4	16	13.8
Total	400	8.5	410	8.7	224	4.8	439	9.4

It will be noted that the percent of positive reactions varies largely in the different groups; this may be explained as follows: Those specimens coming from Dr. Dunn's office were lowest. Dr. Dunn's practice is largely consulting in nature, consequently most of the syphilis had been recognized by the referring physicians and he only saw the obscure cases; also he had Wassermann tests run as a routine on all patients. Dr. Dunn's office has corrected our records by giving us the information that 75 of the positive reactions were repeats. This would bring his total positives to 193 and his percent positives to 14.7.

The University Hospital results were next lowest. Almost complete routine tests were run in this institution; also there were very few repeats in this list, for as soon as a diagnosis of syphilis was made the case was sent elsewhere for treatment. These patients being largely charity were not carefully examined before admission, consequently the percent positive is somewhat higher.

County Hospital results were considerably higher because no routine tests were made; only those suspicious of syphilis were examined.

Specimens sent to the Nebraska Laboratory were of course selected cases or those giving clinical suspicion of syphilis, and the percent positive was accordingly higher. The same statement holds true of the University of Nebraska Dispensary.

The miscellaneous group was the catch-all and no definite information could be obtained as to their source.

The Women's Detention Home record was highest, as was expected. These women were examined after being taken to the police station from known or suspected houses of prostitution. Some interesting effects of treatment on the Wassermann reaction were noted in this group.

The technic used was as follows: Hemolytic System: 2½% suspension of washed sheep cells in salt solution; amboceptor in dilution of 1 to 1000 to 1 to 2500. Complement from guinea pigs, usually pooled from several animals, was titrated against the known strength of amboceptor before each test. 1½ units of complement were used in the test proper. Three antigens were used; in other words, the test was performed in triplicate—(a) alcoholic extract of beef heart, (b) acetone-insoluble lipoids (Noguchi), (c) alcoholic extract of beef heart reenforced with cholesterin. These antigens were used in the test in such a strength that one-half the amount used would completely prevent hemolysis in the presence of a known positive serum; also that twice the amount used was not anticomplementary. The patient's serum was inactivated by heating in a water bath at 56 degrees for one-half hour immediately before testing. Each serum was controlled by setting up a tube with twice the amount used in the test, with no antigen. Each antigen was controlled by setting up a tube with twice the amount used in the test, with no serum. The total amount in each tube was 4 cc., consisting of 0.1 cc. serum, 0.5 cc. antigen, 1 cc. complement representing 1½ units, 1 cc. amboceptor dilution, 1 cc. 2½% suspension of sheep cells, and 0.4 cc. salt solution. The tubes were placed in a water bath at 37 degrees C. for one-half hour before adding the amboceptor and sheep cells. The results were read when hemolysis was complete in the antigen and serum controls. It will be noticed that the immediate reading is somewhat different from the usual custom. This practice was followed by Dr. A. A. Johnson, who made all Wassermann tests for the University of Nebraska before going into service. It was adopted by us only after checking with a large number of treated cases of known syphilis; also it was recognized that the Wassermann reaction is to a degree relative, and by running a large number of tests together it was felt that the factor of safety was sufficiently great. Again, we found that by reading in one hour or in 12 hours we missed a slight positive reaction in some sera, especially from treated cases where there was at first some slight inhibition of hemolysis.

The three antigens used gave to some extent a quantitative result. The cholesterin antigen is extremely sensitive and, in our opinion, should not be used alone. The Noguchi antigen is less sensitive and the plain alcoholic least sensitive.

Using the technic above described we can not agree with the oft-repeated statement that "a one or two plus Wassermann reaction does not mean anything." We have repeatedly proven on treated cases and on latent or so-called "dormant" infections that a one-plus Wassermann reaction has a most decided significance. It is quite true that an absolutely false one-plus may occur, especially when the serum has become infected, when it was taken too soon after eating or after an anesthetic. It is our opinion that a one-plus should be regarded as simply one more clinical fact pointing toward, but not necessarily indicating, syphilis. A two-plus is decidedly more significant, but even here there is some chance of a false positive, and the finding must be correlated with the clinical picture. However, any results stronger than a two-plus should, in our opinion, practically without exception, be regarded as indicative of syphilis even in the absence of clinical manifestations.

We were able to obtain histories from a considerable number of the cases from which the bloods were obtained in the above report, and from the results we wish to recapitulate and offer the following suggestions as a guide to the interpretation of the Wassermann reaction:

(1) A negative reaction: May or may not be of significance. If there is an active process under suspicion, such as an ulcer, a rash, or enlarged glands, then a negative result practically rules out syphilis; however, if the lesion is in the nervous system, then a negative reaction is not at all conclusive. Parenthetically it may be stated that some additional assistance in the case of syphilis of the nervous system is usually obtained by doing a Wassermann test on the spinal fluid.

(2) A one-plus reaction: This must be considered in conjunction with the clinical picture. If the case is of nerve origin it is of added significance. If it is an old treated case or if there is a history of a suspicious primary lesion some years preceding, it is of value. If the reaction is false, another test will usually prove negative.

(3) A two-plus reaction: This result is common in insufficiently treated cases—in the very early cases shortly before the appearance of the rash—in all latent cases, and in syphilis of the nervous system such as tabes or paresis. A false two-plus is very unusual.

(4). A three-plus reaction: It may be mentioned that many workers do not use a three-plus designation, including it under a four-plus reading. It has seemed to us that by using three antigens we are able to separate a four-plus where there is complete inhibition of hemolysis from a two-plus where there is no hemolysis with the cholesterin antigen, but where there is almost complete hemolysis in the other two. We have found the reaction to occur in latent or partially treated syphilis. It may be regarded as denoting a subacute infection. The reaction practically always means syphilis.

(5). A four-plus reaction: This means in our terminology complete absence of hemolysis in all antigens. With almost no exception it means syphilis.

In conclusion, it should be remembered

that a negative reaction does not necessarily mean absence of syphilis, but that a three or four-plus Wassermann reaction nearly always spells lues.

The Gall Bladder As a Seat of Secondary Infection.*

E. A. Watson, M. D., Grand Island.

In preparing this paper, it is my intention and desire not to bore you with text book quotations or rehearse the opinions of others. In taking up the subject of gall bladder disease, its causes, effects and recurrences, we should consider the gall bladder as an isolated organ, the exact function unknown. It is supplied by one artery, the cystic artery, a branch of the hepatic artery, and is quite liberally supplied with lymphatics. It has become very important in modern medicine on account of the frequency of its infection. It is not necessary to go into the diagnosis of gall bladder conditions, as the main points are thoroughly well known to all of us. There are two conditions, cholecystitis or inflammation of the gall bladder and cholelithiasis or gall stones which I wish to enlarge upon. These I believe run hand in hand and are one and the same condition, the presence of the stones simply being further down the line of chronic cholecystitis, their formation being due to bacteria and possibly mucus. On account of the meagre circulation and the isolation of the gall bladder, away from contaminated tissues or organs such as the intestinal and urinary tracts and the mucous membrane of the respiratory passages which may lead to its infection; its infection is always secondary to a focal infection elsewhere and never becomes primary until the primary focus has been exterminated. In about 95% of my cases which presented symptoms of infection of the gall bladder, including those which underwent cholecystectomy or cholecystostomy; I have demonstrated to my own satisfaction another focus of infection either in the tonsils or teeth. I have also a few cases on record in which I saw the patient early in the first disturbance of the gall bladder and eighteen months after removing the tonsils or clearing up an infectious mouth, there had been no tendency to recurrence of the gall bladder symptoms. I have endeavored in several to determine whether the gall bladder infection followed secondarily to bad teeth more frequently than to tonsils. It has been my own idea that in all probability infections of the teeth more frequently caused secondary infection in the gall bladder, than infection of the tonsils, as I believe the infection from the teeth is more of an alimentary condition than that of the tonsils. We have all observed the frequency of tenderness and disturbances in the region of the appendix following bad tonsils. This I believe holds true in at least 90% of cases of infection of the tonsils, but not so frequently does it attack the gall bladder secondarily. I have been able in only one case to attribute a secondary infection of the gall bladder to an infection of an accessory sinus of the nose. More frequently I have found the kidneys involved after this type of infection. The mucous membrane of the gall bladder is undoubtedly the seat of the infection of the organ. This would be suggestive of a predilection for mucous membrane or catarrhal infections. There is a possibility of the infection being present in the bile as secreted by the liver, and taking up its abode in the gall bladder as a fertile field for its propagation. Although I have never heard it suggested, but to eliminate argument, the infection may enter through the pancreatic duct from the duodenum and work its way up through the common duct, but this, we do not think possible, as the interior of the duodenum is believed to be sterile. If this infection had its origin in the bile secreting glands of the liver it seems more than probable there would be a marked disturbance of the hepatic cells and a disturbance in the output of the bile. This would give well defined symptoms of such disturbance. Such a condition is not necessary and is very rarely found. That infection might come through the lymphatic system is possible, yet it is very rare that we find lymphatic involvement of the adjoining organs or tissues. Hence, I have drawn the conclusion, that the greater per cent of gall bladder infections are hematogenous and enter through the cystic artery. If this be the case, we would then come face to face with the problem of why this infection should attack the gall bladder and not the meninges or tissues elsewhere. Therefore we must conclude that the infections of the gall bladder are hematogenous and due to bacteria which have a certain predilection for the gall bladder as a medium, or better yet it is an infection with a predilection for the alimentary tract. The infections of the stomach and intestinal mucosae are usually taken care of by the secretions of those organs and we do not necessarily need evidence of infection from this source to prove the theory of selectivity for the alimentary system, although we frequently do have quite marked disturbances in the intestine associated with cholecystitis. Assuming this to be the case; that there is disease of the gall bladder with not too extensive changes within its walls. If we drain this as we would an abscess or infection elsewhere within the body, thus eliminating the active infection, is it any wonder or surprise that these patients return at the end of six months to two years, complaining of the same old symptoms as previously and are found practically the same. One would assume that if the gall bladder had been removed secondary disturbances would have been eliminated. This might be true as regards the gall bladder, but the biliary passages would have gone on suffering the same infection and in all probability the patient would complain of the same symptoms. If, however, before discharging the patient, after proper drainage, all other foci of infection are relieved, the mouth completely cleared up, the tonsils removed if they show infection, I feel confident that the patient would still be rejoicing and more than satisfied with the work of the surgeon; at least, this has proven true in my cases that have permitted thorough renovating before discharge.

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*Read before the Hall County Medical Society.

Do not misunderstand me. I do think some gall bladders should be removed, as there are no doubt some types that have a tendency to become malignant later in life, and which, if extensively diseased, are much better out than in, but the observation and judgment of the surgeon should be competent to recognize such conditions. We are told that strawberry gall bladders should be removed. What the macroscopical appearance is I am not positive, but I do not believe the strawberry gall bladder exists as frequently as is claimed. My idea of a strawberry gall bladder is one that has the unmistakable appearance in the mucous membrane alone, and not in the degree of increase in connective tissue which may exist. An enormously thickened and fibrous gall bladder should, in my opinion, be removed. Even this should be qualified by adding, that if there are indications of pancreatitis with a thickening and induration of the biliary ducts, these should be drained and possibly the gall bladder later removed after the subsidence of symptoms and absorption of the inflammatory tissues. This should only be done when there is a tendency to recurrence of old symptoms.

Undoubtedly the gall bladder has a function to perform. Whether this be as a store house for small quantities of bile to take care of small quantities eaten between meals, or whether it is to act as an atomizer bulb and equalize the pressure within the ducts, I prefer that you take your choice. But whichever function it performs, I believe it is of enough importance that when possible or reasonable it should be left and I believe the surgeon should qualify himself as a competent judge. That we do have trouble following cholecystectomy, as evidenced by attacks of obstruction of the bile passages, is positive proof that the removal of the gall bladder is not a sure relief of biliary disturbances.

Opening Exercise.

The Fifty-second annual convention of the Nebraska State Medical Association met in Omaha at the Fontenelle Hotel, May 24-26, 1920. Rev. Edwin Hart Jenks of Omaha was called upon to pronounce the

Invocation.

We invoke Thy blessing, O spirit of God, in this gathering. We thank Thee for all these years of working together. We thank Thee for all the good that has been accomplished; for the great part the physicians of this state have had in its upbuilding; and in preserving the lives of the people of this great commonwealth.

We ask Thy blessing may be upon us that we may understand Thy words: "Ye shall know the truth, and the truth shall make you free"; that we may understand how Thou hast opened up to us the vast world of investigation—the world of beauty and the world of truth.

So as we come here we feel Divine sympathy with us, and the spirit of God beareth witness with our spirit that we are the sons of God.

We pray Thy blessing upon all these sessions—upon those who shall preside and those who shall take part. Grant there may be a real quickening, not only of scientific knowledge, but a real quickening of the spirit of helpfulness and fraternity as we come together in this meeting.

Grant Thy blessing may rest upon their families while the members of this Association are away from home. Wilt Thou keep in health and strength those who look to them and depend upon them.

Grant Thy blessing may be upon them while they are here in contact with their brethren of the profession.

May it be a blessing to us in the city to receive them into our midst, and to feel we have this distinguished body as part of our life for a little time.

The Lord guide by His spirit all that may be said and done. May the spirit of brotherly love and peace and broad-mindedness and devotion prevail here, and grant it may be a great educative period for those who are here. Grant that it may be not only a refreshment of mind but of body, and send them away with the consciousness of duties resting upon them—duties to humanity—they who have the precious things of human life in their keeping.

So guide and protect us, and may these meetings end with the glow and consciousness of their high calling, for Thy name's sake and glory. Amen.

ADDRESS OF WELCOME.

Mayor Ed P. Smith.

To the President, to the Ladies and Gentlemen, Delegates to your Convention, and Friends: In behalf of the city of Omaha, I am very glad indeed to extend to each of you this afternoon a most cordial welcome to the city, and to indulge the hope that your visit here may be both pleasant and profitable to yourselves, as I beg to assure you it is pleasant, and I am sure will be profitable, to the people of Omaha.

We are very glad to have these conventions meet with us and bring into our midst representative men of the different lines of business or different professions, both from all over the State and elsewhere. We have a great many of these conventions that meet in Omaha. I think last year we had something like one hundred and twenty-four of them. It generally falls to the lot of the Mayor to extend a welcome to all of them; and I want to assure you gentlemen while we have had meetings of bankers and business men, and men engaged in every line of business and every profession, I think I can truthfully say there is none we welcome more cordially than the members of the medical profession, because we all realize you are engaged in a high and noble calling. Everybody realizes the wonderful work that the medical profession did in the recent world war, and every family knows how near to the family is the man we term the "family physician." We may rely on the banker for finances, and the business man for something to eat; but we all regard the family physician as about the nearest one to the family of anybody outside the family circle.

So we are glad to have you here—glad to have you confer among yourselves and with our own people. I think the city of Omaha profits very much by getting people to come here and mingle with us from outside the city—from the outside world. It may be in our life we become sort of callous, and become circumscribed in our views. So it is a good plan to have people come and give us the benefit of their views.

I hope while you are here you will become better acquainted with Omaha. I sometimes feel the outside world—the agricultural community—does not have a proper view of Omaha and its ambitions and what we are trying to do. It know it is true as a general rule the people in the rural communities look on Omaha as being wholly commercial; that the city is a great big commercial institution where everybody chases the almighty dollar, and that's all they are doing.

While we have great commercial industries, and we are immensely proud of them, I want the world to know Omaha is not wholly commercial. I think there is no city in the land that is doing more for the advancement of the cause of education, both in our public and private schools and in professional lines, and no city in the land doing more toward the upbuilding of humanity generally than the city of Omaha. I want the world to know it; and I want you men here from outside the city to come in touch with us so that when you go back home you can tell more about what we are doing in Omaha.

I think we have the finest public schools of any city of the same size in the land. I think we spend more money per capita on our schools than any city of the size in the United States. Our school taxes are two and one-fourth million dollars a year. It costs more to run our public schools than all the rest of the city government together. We have what we think is the finest high school building in the land, yet we voted five million dollars to build another and finer one. There is no limit to what we are doing for the cause of education.

We appropriate thousands of dollars to the Young Men's and Young Women's Christian Associations. We give liberally to the Knights of Columbus, and other organizations; so we are not wholly commercial.

There is no profession that is more active or that is doing more to promote the cause of humanity than the medical profession in Omaha. Not only is that true of the doctors of medicine. It is true also in the dental profession. They have established at their own expense a free dental clinic that is supported by the dentists of Omaha without expense to the public generally; and there are hundreds of poor children in this town who are given the benefit of treatment in that free clinic that they never would receive were it not for its existence. They had their offices for quite a while in a business block, but a year ago we provided quarters for them in the City Hall; so that I can see the stream of young children—some coming alone and others brought by their mothers—who take advantage of this free clinic. I can testify to the wonderful good the people of Omaha are deriving from it.

The doctors of this town are extremely progressive. I want to tell you one thing we are trying to accomplish. I think the city of Omaha has the finest private hospitals of any city of its size in the whole United States. Some are denominational and some are not; but the doors of none of them have ever been closed in the face of a man who could not pay the bill. They are humanitarians first, and private hospitals afterwards. I cannot estimate the wonderful good the hospitals of Omaha do.

After I got into the job in which I find myself in the City Hall and began to make a study of the Health Department and the needs of the city, I became thoroughly impressed with the idea we should have, in addition to these great private hospitals, a modern, up-to-date, well equipped and well arranged municipal hospital. I want to leave this thought with you men. I believe the time has come when every municipality—it may not be the city; it may be the county—when every county in the state owes it to itself and the community to have a well equipped, up-to-date community hospital.

Let me say I was authorized by the City Council to appoint a committee of leading professional and business men in this city to devise plans and outline the program for this municipal hospital. I appointed such a committee and its members are working out a plan which, when perfected, will be submitted; and I am sure the people of Omaha will adopt it and build it. And one of these times when you come to Omaha you will be given the privilege of seeing our splendid municipal hospital.

One of the things I urged before that committee, and one of the things I would like to see in every county of the state, is a department especially devoted to a maternity hospital. I believe the city of Omaha owes it to its citizens to maintain a first-class maternity hospital. We have been conserving food stuffs, and everything in the world except human life. I think we have reached a point where we must conserve the mothers and the babies; so I insisted that they must provide in this plan an up-to-date, well equipped maternity ward.

Now I think it is true that in the city, and I doubt not in the country, in the homes of those we would term the best fixed financially—those who are well equipped with the world's goods—in the case of expectant motherhood, the wife is taken to a private hospital; because they all realize that the health of the mother, the life of the child, and the saving of both can be cared for better in a hospital than at home. No matter if that home be equipped with all the modern conveniences of the best equipped home in Omaha. That mother is taken to a private hospital where she is taken care of at the time of confinement. But we have here, and you have in your part of the state, hundreds of the poorer people who cannot pay the bills of a private hospital; and yet the preservation of that mother's life and the life of that little child is just as essential to the well being of the community as though it were ushered into life on West Farnam street.

They can't afford to go to the private hospital. They don't want to go to a charity hospital. Their pride prevents them. Although there are hospitals which would take them in as charity patients, the pride of the family prevents them from availing themselves of the opportunity such private hospitals afford. So I want a splendidly equipped maternity hospital that is paid for by every taxpayer. So that every expectant mother will feel she owns an interest in it and has a right to go to it in case of childbirth, and there receive the best of care, the best of attention; because I am advised by physicians, and I think experience has demonstrated to all of us, there are more women whose health is impaired and who go through life impaired in strength and vigor because of lack of proper treatment at the time of childbirth than any other one thing. I think we lose thousands of babies because of lack of care during the first few days of their lives. I want to conserve the mothers and babies, and to do that we are going to have a maternity hospital and we are going to conserve life here in Omaha.

If I can leave one thought with you, it would be this: Why should not each county in the state maintain a community hospital owned by the community, for the preservation of the lives of the mothers and babies in that community? You will come to it in time. We are building agricultural colleges to promote the breeding of live stock, and for the betterment of the character of the grain we raise. The time has come when we must do something to promote and maintain human life. I think one of the great duties the medical profession owes to the community is to advocate this and try to put it across.

I am glad to welcome you this afternoon, not merely because you are leaders of the profession you represent, but because you are representative citizens of the communities in which you live. That is the chief thing. I think it has been demonstrated the last few years, and I think the public recognizes it now more than ever, that the best man of the community is not merely the man who becomes wedded to his business or profession. We have in the city great banking institutions, and splendid jobbing houses, and almost the greatest stockyards and packing houses in the world, and a grain exchange that is our pride. We have physicians who rank at the head of their list. We have lawyers who can charm a jury with their eloquence and convince a court with their logic. But the great man in the community now, and what the world is looking for and needs as it never needed it before, is not merely the banker who builds up the greatest institution and gets the greatest amount of deposits. No. It is not the jobber who builds up the biggest wholesale business. No. It is not the lawyer who can win the most law suits. No. Nor the surgeon who can perform the greatest operations, nor the physician who can administer the finest remedies. No.

It is the lawyer who stands at the head of his profession. Yes. It is not only the physician who heads his profession, the banker who builds a great institution, and the commercial house that towers above all; but the man who, in addition to all this, is willing to devote a part of his time, a part of his energy, a part of his finances, to the building up of the educational, moral, and Christian sentiment of his community. I know in Omaha among the medical profession are doctors who rank at the top of the list, who are also among the men most active in all these endeavors along the line of social betterment. I think you are representatives of that class from your various communities, and because I believe it, I thrice welcome you to Omaha.

Response to the Address of Welcome.

B. F. Bailey, M. D., Lincoln.

Mr. President, your Honor, Mayor Smith, and Members of the Nebraska State Medical Association: I assure you it is a great pleasure to have the honor of replying to the address of the Mayor of Omaha. I have not forgotten a few years ago when Mr. Wattles, of Omaha, spoke at a public meeting in Lincoln, and in speaking of Lincoln, he said: "Lincoln, the Capital of the State of Nebraska—which, pray God, she always may be." I assure you at that time it struck a very responsive chord in the hearts of the people of Lincoln, for we did not know what the future held for us. From that day to this, there has been more of co-operation, more of understanding, between the people of Omaha and the people of Lincoln.

I know that the people of the State realize that we as cities occupy different positions: One the great commercial and medical center; the other the educational center and the capital of the State. I know that you are all proud of your commercial center—the city of Omaha. I know you are proud of your Capital City—the city of Lincoln. I know that I am very glad to be able to extend gratitude for the address of welcome to a man who, as Mayor, we throughout the state know has not only given of his best and won the respect of the people; but has shown himself in time of crisis willing, if necessary, to make even the supreme sacrifice for the honor and safety of his city and of his people. I know that everyone here today is proud to greet a Mayor who is the head of a government that has been gradually but surely outgrowing the system of politics in the placing of medical officers. You and I know they have been working to make their Health Department in Omaha strong and nonpolitical, and they are making a success of it. We know we have a medical center, composed of the colleges of the city, which is not only honored throughout the state, but throughout the entire country to the east.

When our good Mayor addressed his remarks to those of us who were "from the country" not an "irrigated" country—and I assure you I am willing to be considered from the country—I wondered if he realized how thoroughly we are in sympathy, not only throughout the state, but in Lincoln, also, with the development of Omaha as a medical center of education? We will all have our hospitals and strong physicians, but as a medical center we are proud of Omaha, and wish to give to it every support that is possible.

The medical profession itself, Mr. Mayor, has, during the years of the war, gone through the entire time with sacrifice, and has been the last to add to the high cost of living. They have given of themselves and all their strength.

It is your business, Sir, to be the executive of the building and the business of the city. It is our business to see that the city may be built with safety to the people, and that in its carrying on it may be safe for the lives of the people. It is our duty to preserve the lives of the adults and to think for the generations to come. It is our business to see to it that sanitary work is so perfect and so complete that "God's acre" shall contain the ripened wheat, but not so many of the "flowers that grow between."

So, gentlemen, today it is with a feeling of great honor and pleasure that I respond to this address from the Mayor, and assure him of our support as a profession for the medical centers of this state; and trust that the people of Omaha and the people of the state may realize that their Mayor is not a "slacker," he is not like Senator Sorghum's candidate who had to be whitewashed in order to run as a dark horse, but that he has established his strength and possibilities, and will in the future be sure of our support and never will stay at the bottom of the ladder; that in making more and more of the abilities of the medical profession by nonpolitical selection, and in advisory boards which we so much need.

Secretary Aikin then read the following resolution which was introduced by request:

RESOLVED, That we commend the action of the last Legislature in creating a Children's Code Commission for the study of child welfare legislation and that we urge a careful consideration of the legislative program proposed by this commission and the support of this program so far as it tends to the standardization of child welfare laws and the promotion of the health of the coming generation through preventive and constructive legislation; and, further, that we especially commend the proposed law to require applicants for marriage licenses to have a certificate from a licensed physician showing freedom from venereal disease.

In support of the resolution

Hon. Howard Kennedy, Omaha, spoke as follows: Mr. President, Ladies and Gentlemen: The last legislature, following the example of many other states, felt that it was time we look into our legislation affecting child welfare to see just what conditions are in this state; to compare our laws with the laws of other states; to make such recommendations as might be felt desirable for the repeal of obsolete and conflicting and undesirable legislation, and for the enactment of such new laws as would bring our state into harmony with the best experience of the time.

A commission was appointed, and a very large field of child welfare legislation has been, and is being, reviewed. There are a good many topics that directly concern the medical profession. I think all of the topics concern all of us as citizens.

It was considerable of a shock to me, as I am a native of this state and always proud of our record in education and of our low percentage of illiteracy, to learn that over six hundred school districts in this state hold school for less than forty days in the year! One of the recommendations of the Commission will be to afford greater opportunities for education in the rural communities. It will also consider the education and the health of children, the matter of the mentally defective, the need which we have in this state for closer inspection, and how to ascertain the facts with reference to those who are mentally defective and to take some steps to alleviate conditions—to mitigate conditions.

A proposal for a psychopathic clinic will be one of the things recommended; also a proposal that as a condition of the issuing of a certificate or labor permit for a child, it be required that the child be examined to know he is physically fit for the work in which he proposes to engage; that the care of the State will not cease with the issuing of the permit, but that from time to time he shall be visited, and it shall be ascertained whether the working conditions are such as to impair his physical being.

Then there is the matter of maternity homes and hospitals and the placing out of children. There are a hundred and one things.

The object of the Commission is, as stated in the resolution, preventive and constructive, and so with reference to this matter which was especially mentioned in the resolution—a looking forward in a preventive way after the welfare of future generations by recommending that those shall not be permitted to marry who are not physically fit.

I simply wish to ask in behalf of the Commission the co-operation of this representative, splendid body, and to assure you likewise that the Commission will very gratefully receive any suggestions which you may have to offer, and to co-operate with you in any way in which it shall be able.

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Our Annual Convention.

The fifty-second annual convention of the Nebraska State Medical Association closed May 26, 1920, at the Fontenelle Hotel in Omaha.

The outstanding features of this meeting were the interest in the state institutions, provisions for extending the influence of the Medical Association and the harmony among the members who attended. The absence of friction and complaints of cliques produced the most cordial spirit experienced in many sessions. The program was prepared for the rank and file, the general practitioner, who numbers the largest percentage in our association. In doing away with the sectional meeting, ultra scientific papers and symposia are lost but the general tone is suitable to the men and women who are first of all interested in what they themselves may do for their patients. It was a questionable departure to include in a half day's program, a group of papers on State Institutions, but the interest aroused warranted the time allowed. This department of public health deserves the best care and thought of the medical profession.

Let each one read carefully every clause in that part of the constitution which sets forth the purpose of the Association.

"The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Nebraska, and to unite with similar Associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interest; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and more honorable within itself, and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life."

If we have approached these ideals in the recent session we may say that the meeting has been a profitable one. In retrospect, one who has seen many annual sessions believes that this has been an outstanding gathering of the medical profession. In the fellowship enjoyed, in the completeness of organization and the interest shown in public health no session has ever approached this one.

Our Psycopathic Hospital.

"This Association places itself on record as favoring the establishment in Nebraska of a Psycopathic Hospital," was the unanimous voice of the legislative assembly for the Nebraska State Medical Association in their 1920 annual convention. Surely the wisdom of that action cannot evoke adverse comment.

In practically every county in the state the necessity for a hospital in which persons with alleged dethronement of the reason may be detained for adequate observation under competent medical study has long been recognized by the medical profession. It is true that in each county there is a Board of Insanity composed of a doctor and a lawyer appointed by the county or district judges, with the county or district clerk, ex-officio, the third member. That Board sitting as a court are asked to determine if the accused is insane and a fit subject for care and treatment in one of our state institutions. In a minority of the cases presented the evidence on which to render a just decision is so obvious that the non-medical men, and medical member of the Board, whose training on the observation of mental disorders is usually quite limited, cannot err in judgment; but in a large percentage of mentally deranged persons their astuteness in concealing the true status of their mental condition, necessitates accurate and protracted observation by medical men who are fitted by nature and special training before a wise judgment can be rendered.

Our existing laws do not provide for either state, county, or municipal hospitals where the mentally sick person can be shielded from his suicidal or homicidal actions. If restraint is imperative he is perforce made to become a host in the county jail or poor house, pending an intelligent investigation to determine the cause and treatment for his disorder. Continuance of this ancient, unjust, cruel—yes criminal—negligence toward the mentally sick of our families, can and surely should be made impossible by legislation that will provide for their humane care and treatment. Private sanitariums are rendering splendid service for a few in this class of sick people, but cannot for obvious reasons care for the larger numbers whose needs are equally meritorious, but who by reason of existing conditions must be classed with the law-breaker or indigent class.

Our State University should be equipped to evalue the mental capability and stability of pupils in advising their course of study. An extension of the work into our public schools would greatly benefit teacher and child, by an earlier and better grouping in the primary grades than existing conditions permit.

It's Up To You.

On May 25, 1920, application was filed with the Division of Vital Statistics, Bureau of Census, Washington, D. C., for the admission of the state of Nebraska into the registration area. In order to gain admission, the State Bureau of Health must be able to show them that there are being reported to it over ninety percent of all births and deaths occurring in the state.

Whether the state is admitted or rejected will depend upon the action of those in attendance at the time of the occurrence of a birth or a death, as the case may be. Can we count on your support?

I. H. Dillon, M. D.,
Chief of Bureau of Health.

Salvaging Wrecked Minds.

"American Medico-Psychological Society" is engaged upon work of endless benefit to society, especially to the afflicted individuals with whom it deals.

All sorts of mental cases are studied and aided by this society. They are carrying on work in fourteen different asylums and institutions throughout the country, and the influence of their knowledge and methods is felt in many more.

One of the members reports that the result of their efforts has been to make two-thirds of the mentally defective people productive industrially. Some of the cases have even been turned back into ordinary industrial life. Most of the others they make fit for institutional industry.

Inspired by their success with the defectives, they are working hard to finds methods of reaching the violently insane and making their lives more useful and bearable.

It is a great work which this society is doing. It marks a long step from the days when deficient and insane people were laughed at or feared, neglected or held in pitiful restraint with nothing to ameliorate their condition. Worthy of a wider understanding, and a fuller co-operation are the labors of this society. — Norfolk Daily News (Editorial).

Modern Witch Crazes.

George M. Beard, in his book, "The Psychology of the Salem Witchcraft Excitement in 1692," writes, "that he who should on a wager contract to excite the American people through the emotions, and in that way convert them to any doctrine within three months, and to a denial of the same doctrine within another three months, could if he were moderately skillful, gain his contract and win his wager." This was written about forty years ago, but it is more true today.

To quote a recent editorial: Getting a legislature to act upon all manner of essentially personal and petty questions is perfectly easy. This state solemnly forbids playing any game of cards in a public resort. That one forbids buying a cigar on Sunday. A number have gravely dealt with the portentious question of giving tips. Every winter produces a sheaf of bills to regulate women's dress. Getting any state to attend to such matters as how and when a kimono shall be worn, or the length and cut of bathing suits, is perfectly easy. . . . But getting a legislature ever to consider public questions of large importance is difficult. . . . Where the law requires a washerwoman's cook stove to be assessed, and a millionaire's wife's diamonds are not assessed, the legislature is deeply engaged with the censorship of moving pictures. Where mob murders are a well recognized institution, the legislature is passing an act to regulate the length of hat pins.

To quote Henry Watterson: Under the pretense of liberalizing the government, politicians are sacrificing its organic character to whimsical experimentatios, its checks and balances, wisely designed to promote and protect liberty, are being loosened by schemes of reform more or less visionary; while nowhere do we find intelligence enlightened by experience, and conviction supported by self control, interposing to save the representative system of the Constitution from the onward march of the protelariat. . . . When they have not gone skylarking or have grown tired of bridge they devote their leisure to organizing clubs other than those of the uplift. There are all sorts, from the Society for the Abrogation of Bathing Suits at the seaside resorts to the league over at Mewville for the care of disabled cats. Most of these clubs are all officers and no privates. That is what many of them are made for. Do they advance the world in grace? One who surveys the scene can scarcely think so.

In New York, in 1918, a wave of hysterical morality caused the raiding of public hotels, apartment houses, restaurants and billiard rooms, with the arresting, without warrants, of 1.100 people. All this to find possible hidden vice. Shortly after Rodman Wanamaker, special deputy police commissioner, advised the use of women to act as police spies in the following way:

Women of character and ability can be easily found to volunteer for this work. It can be extended . . . so as to have in every block of inhabited territory in this city a woman in charge, whose post it would be and whose duty it should be to keep that block clean and wholesome by becoming acquainted with every person and condition existing therein and reporting as may be directed by the police commissioner everything unlawful or irregular coming to her notice.

A delicate tribute to a well-known characteristic of many women.

Recently a prominent aviator of the United States Army, Lieutenant Maynard, was quoted by the Anti-Saloon League as saying that a large number of the casualties which occurred in the recent transcontinental race were caused by flying with hangovers or when drunk. This was published far and wide by the newspapers and a sensation made of it. A frequent heading was "Booze Knocked Out Transcontinental Fliers." This was absolutely denied by the gentleman in question. He said that his real statement was, "Many accidents in aviation are caused by the use of intoxicants," and that the Anti-Saloon League had deliberately juggled this to suit their own purposes.

It is of interest to note that in Nebraska, for some time a very dry state, where cigarets are prohibited, and where a bill was proposed in the legislature making it a penal offense to have the odor of an alcoholic drink on the breath, not long ago the mayor was nearly murdered and the court house burned in Omaha by a mob who wished to and eventually did lynch a negro accused of a certain crime, but not yet proved guilty.

It will be found by investigation that most lynchings and other outbreaks of mob violence occur in states most prone to freak legislation. This seems to show the lack of mental balance of the people. A member of Congress is recently quoted as stating that there were 80,000 drug addicts in the first draft, and that they were all rejected. The second report of the Provost-Marshall General says that of 3,208,446 men examined, 2,007 were rejected for drugs and alcohol — quite a difference.

During the late war our hysterical temperament was strongly manifested; and when started our antipathy for anything German was much stronger and is now much stronger than in those countries that suffered most from the war. It may be remembered that during the summer of 1918, when it was requested not to use automobiles on Sundays, a gentleman in a nearby town took his wife, who was a cripple, to church in his motor car. While he was in church, a mob cut his tires, emptied his gasoline tanks, damaged his car and subjected him to verbal abuse. The newspapers were full of accounts of physical and other abuse inflicted on those who did not subscribe to liberty bonds. In some cases possibly there was a reason for this; in others there was not. In a town in Nebraska, a hall which had been used before the war as a meeting place for German societies was burned during the war by incendiaries, and the fire department made no effort to save it.

One of the results of this peculiar mental state, which I have tried to show now afflicts many of the people of this country, is the meddling with the management of institutions, such as prisons and hospitals for the insane, especially the former. The officials of these institutions are very much in the position of the Salem witches, and are subjected to all sorts of accusation and abuse, usually by people who have no practical knowledge of the subject at all, sometimes by those who have, but who, courting notoriety, want to be right with the crowd. The newspapers, without knowledge of the facts, take great delight in making a sensation of the most trivial charges.

A Plea for Sanity.

Possibly some may call me an iconoclast. I am not. I believe heartily in all measures that help the poor and unfortunate, provided, as I have already said, the advocates of these measures and those who carry them out, act with decency and common sense, and not as hysterics and notoriety seekers. Social service, for instance, is a grand thing when it is not secret police service, as for example, when some years ago I was requested, almost ordered, to send a widow, aged 40 years, to the hospital for the insane because she drank beer with men. Needless to say I refused. The same may be said of a number of other organizations and measures. They are useful when sane.

I have tried to show that much is done now in the name of law, order and uplift is not sane. Dr. Lloyd, at a meeting of this society a few months ago said: "The various crazes of today are an evidence of the unsettled minds of the community." They are therefore legitimate subjects for the attention of this society. Not a little of freak legislation is proposed by medical men, which makes it doubly important that we as medical men and women who study especially mental diseases, endeavor to guide such minds, both medical and lay, into proper channels.

To my mind these are serious days, and anything which promotes morbid and hysterical mental states is dangerous, and worthy of our earnest consideration. Othewise, we may have a witch craze on our hands that will make that of Salem appear very small, indeed. To quote again Henry Watterson:

> Bigotry is a disease. The bigot pursuing his narrow round is like the bedridden possessed by his disordered fancy. It sees nothing but itself, which it mistakes for wisdom and virtue. But it also begets hypocrisy. When this spreads over a sufficient area and counts a voting majority it sends its agents abroad, and thus we acquire canting apostles and legislators at once corrupt and despotic . . . . The worst of it is that there seems nowhere any popular realization—scarcely any popular outcry. . . . In a nation of undiscriminating voters the voice of the agitator is apt to drown the voice of the statesman.

Nuggets copied from the presidential address before the Philadelphia Psychiatric Society, by Charles S. Potts, M. D., and published in Archives of Neurology and Psychiatry, Vol. 3, No. 5, May 1920.

STATE CONVENTION NOTES.

The House of Delegates organized Monday evening with thirty-eight delegates answering roll call. Dr. B. F. Bailey of Lincoln was unanimously chosen president pro tem.

President Orr was on duty throughout the entire session, but the absence of our vice-presidents was noticeable.

A most cordial fraternal spirit prevailed during the entire session.

A few minor changes in our By-Laws were made, one of these was that beginning with January 1921 our annual dues will be $5.00, and if not received in the office of the Secretary-treasurer by January 31st of that year subscription to the Journal expires, to be renewed only when the delinquent member is reinstated.

Our roster shows fifty-five counties paid up for 1920. Our membership to date is 1125.

Drs. A. S. von Mansfelde and Charles Inches, two of our oldest and most loyal supporters of the profession, were present and active in both the legislative and scientific sessions of the convention.

Eleven of our twelve Councilors were present and active in their official duties. Their labor, unselfishly and wisely given, is greatly appreciated by those who know the duties devolving upon them and their loyalty in service.

The banquet was largely attended, but belated applicants for a banquet ticket found seating capacity fully occupied. The lecture by Dr. J. S. Greene was technical, interesting and instructive. His address at the noon luncheon in the Chamber of Commerce to an audience of 260, was a direct and concise statement on the functions and needs of our various state institutions. He told of the work they are accomplishing and showed why they need the support of every tax-payer in Nebraska.

Dr. M. S. Moore of Gothenburg is our president-elect. Drs. E. A. Creighton of Red Cloud and W. L. Curtis of Lincoln were elected vice-presidents.

Dr. R. D. Bryson of Callaway and Dr. N. T. Johnston of Upland, representing the 9th and 10th Districts, are new members elected on our Council.

Drs. H. E. Mantor of Sidney and A. J. Stewart of Mitchell were re-elected as Councilors in the 11th and 12th Districts respectively.

Dr. Joseph M. Aikin was re-elected as delegate to the A. M. A. with Dr. W. O. Bridges as alternate.

Dr. A. D. Dunn was re-elected as delegate to the Council on Medical Education and Colleges of the A. M. A.

Dr. B. F. Bailey of Lincoln was re-elected as a member on the Committee on Journal and Publication, and Dr. A. S. von Mansfelde was re-elected as a member of the Medico-Legal Defense Committee.

The general registration was 285 and registration in the House of Delegates 43.

Our next annual meeting will be in Lincoln.

The minutes of the House of Delegates and of the Board of Councilors will be printed in the July issue of our Journal.

ABOUT THE DOCTOR.

Dr. J. T. Stanard has become mayor of Ulysses.

Dr. F. N. Saville has moved from Deshler to Filley.

Dr. John Lancer of Omaha has located at Ashland.

Dr. H. P. McKnight has moved from Tekamah to Uehling.

Dr. L. F. Egen, formerly of Omaha, has located at Glenvil, Neb.

Dr. J. W. King of Hartington has been ill in a Sioux City hospital.

The Newman Grove people contemplate building a community hospital.

Dr. L. E. Hanisch of Omaha was a recent caller at the Journal office.

Dr. D. L. Fletcher of Orchard was operated on at the Mayo Clinic recently.

Dr. S. L. Keller of Omaha has become associated with Dr. Walker of Mullen.

Dr. Alfred J. Brown of Omaha has moved his offices to the McCague Building.

Dr. F. W. Plehn and Miss Elpha Peters of Scottsbluff were married in Omaha, May 3.

The Journal office has received notice that a physician is needed at Brandon, Colo.

Dr. Paul J. Flory of Genoa has succeeded to the practice of Dr. J. C. Waddell of Pawnee City.

Dr. A. L. Bartlett, Spaulding, who has been very ill this spring is reported rapidly recovering.

Dr. J. E. Gelow of Hampton has become associated with Drs. McGrath and Woodruff of Grand Island.

Dr. C. A. Hull, Omaha, has become chief surgeon of the Omaha and Council Bluffs Street Railway Co.

Dr. and Mrs. F. W. Scott of Chappell have returned from a recent visit with his parents in Omaha.

Dr. Geo. B. Potter of Shelby, Neb., has moved to Omaha. He limits his practice to eye, ear, nose and throat work.

Several Schuyler physicians have been victims of sneak thieves looking for narcotics. Morphine tablets were taken.

Dr. Louis G. Moon of Omaha has decided to limit his practice to Diseases of the gastro-intestinal tract and rectum.

Drs. Moore, Shidler and King of York have purchased a private house and will convert it into a twelve-bed hospital.

The physicians of Wymore tendered a farewell banquet to Dr. P. L. Gillespie April 19. Dr. Gillespie has moved to Beatrice.

Dr. J. C. Waddell of Pawnee City has become associated with Dr. H. M. Hepperlin of Beatrice in the practice of medicine and surgery.

Dr. H. J. Pittock and Miss Mae Vergoon of Ingleside were married at Hastings May 12. Both parties are attaches of the State Hospital at Ingleside.

Dr. and Mrs. J. P. Lord of Omaha attended the annual convention of the American Orthopaedic Society held in Toronto, Canada, June 7-9, 1920.

Drs. Newell Jones and Floyd Clarke have associated with them Drs. J. Harry Murphy and Andrew G. Dow in the formation of The Children's Clinic of Omaha.

Three well known Norfolk physicians suffering from lapsus memoriae were called to police court on account of having failed to get their automobile licenses for 1920.

The Brown County Hospital Association has been formed, most of the money subscribed and the contract awarded for building a $42,000 hospital building in Ainsworth.

Drs. H. M. McClanahan and Newell Jones of Omaha, and William O. Colburn of Lincoln, attended the American Pediatric Society convention at Highland Park, Ill., May 31.

Dr. M. H. Evans of Emerson underwent a serious operation at St. Joseph's Hospital, Sioux City, early in May. Dr. Evans is the oldest physician in the northeastern corner of the state.

"Dr. P. R. Carpenter," holding himself out to be a "Naturopath" was arrested at Long Pine, recently at the instance of the Department of Public Welfare for practicing medicine illegally.

Dr. J. Rhodes Longley, a former North Platte boy, now a resident of Fon du Lac, Wis., a major in the medical corps, chief surgeon of the American Forces in the Archangel sector, has been cited for exceptional meritorious and consecutive service.

Dr. A. E. Cook, Randolph, a member of the Board of Councilors of the Nebraska State Medical Association, on a recent trip to Florida broke into the limelight as a fisherman by landing the largest kingfish of the season, the fish weighing 33½ pounds.

The new Lord Lister Hospital has been taken over by the Danish Hospital Association and will be known as the Fenger Hospital in memoriam to the late Dr. Christian Fenger. The hospital will have one hundred and fifty beds and will open in July of this year.

The Phelps County Medical Association gave a banquet at Holdrege in honor of Dr. S. F. Sanders on his seventy-fifth birthday. Dr. Sanders rarely misses a medical association meeting and is one of the best known and most beloved country doctors of the state.

SOCIETY NOTES.

At the regular meeting of the Nuckolls County Medical Society, held in Superior, May 21, a banquet was given by the Society, which was attended by all members and their wives. After the banquet, the ladies attended the movies, while the Society held their regular monthly meeting. A very interesting and instructive paper was read by Dr. E. E. Pfeiffer of Nelson.

The Franklin County Medical Society met in Franklin on Tuesday, June 8th. The meeting was held in the Lincoln Hotel where a fine dinner was served the visiting doctors by the profession of Franklin, at noon. The following were present: Drs. Pruner of Omaha; McKinnon, Everett and Roscoe Smith of Lincoln; Shields of Holdrege; Jones, Calbreath, Spicer, Hamel and McPherson of Hastings; Creighton and Mitchell of Red Cloud; Marstellar of Wilcox; Neville and Baker of Hildreth; Johnston of Upland; Sparks of Bloomington; Nail of Riverton; Campbell, Smith and Byerly of Franklin.

As the dean of the profession in the county and having almost reached the age of eighty, Dr. Byerly was elected an honorary member of the society.

The program was as follows: "Local Anaesthesia in General Surgery," Dr. McKinnon of Lincoln; "Border Line Cancer Cases of the Uterus," Dr. Pruner of Omaha; "Anaemia in Infancy," Dr. Spicer of Hastings; "A Case History," Dr. Jones of Hastings; "X-ray in Surgery," Dr. Everett of Lincoln; a lantern slide demonstration of X-ray plates by Dr. Roscoe Smith of Lincoln; "A clinic," Dr. Byerly of Franklin.

The meeting was full of discussion, pep and ginger and adjourned to meet in October.

The John A. Creighton Medical College Alumni

Association held its annual session June 2-4. Clinics were held at St. Joseph Hospital. On Friday evening, June 4th, the Association was addressed by Dr. H. S. Plummer of the Mayo Clinic on "The Function of the Thyroid Gland."

A post graduate clinical week was held June 7-13 in Omaha at the University of Nebraska College of Medicine. Emphasis was placed on the social diseases as subjects for study and demonstration. Daily "ward walks" through the University Hospital, and laboratory work in clinical pathology covering the latest methods in diagnosis, were some of the practical features of the work.

The regular meeting of the Richardson County Medical Society was held in Falls City on June 2. The program consisted of papers as follows: "Blood and Urine Chemistry in General Practice," by Dr. G. W. Covey, Lincoln, and "Tuberculosis of the Kidney from the Roentgen Standpoint," by Dr. E. W. Rowe, Lincoln.

Swedish Mission Hospital Training School for Nurses Graduating Class 1920.

Gertrude Marie Anderson
Agnes Alma Theresia Beck
Ruth Elvira Borg
Lillian Viola Jones
Ethel Otilia Johnson
Inez Corona Johnson
Hildore Elvira Johnson
Cleo Mae McKercher
Viola Lillian Nelson

Nebraska Methodist Episcopal Hospital Training School for Nurses, Graduating Class 1920.

Maud Long Kellison
Mary Helen Hankins
May Shaffer
Georgia Anna Brich
Dorothy Ransom
Josephine Malzacher
Elfie Viola Spurrier
Gertrude M. Shriver
Florence M. Clements
Martha Miller
Frances Galda
L. Arvilla Timm
Julia L. Elliott
Anna M. Salyers
Mary A. White
Helen Hittle
Johanna Trauernicht
Lola S. Smith
Christine R. Seitz
Emma R. Nollmann
Hannah J. Lagerquist
Helen Plumb

DEATHS.

William Brown Ewing, Salt Lake City, Utah; Rush Medical College, 1885; aged 60; secretary of the Utah State Medical Association from 1912 to 1917; a specialist in neuropathy; captain, M. C., U. S. Army and discharged Jan. 8, 1919; examiner of the insane for the third district court; died in St. Mark's Hospital, Salt Lake City, April 24, from heart disease.

The Journal extends sympathy to Dr. Fred A. Lemar of Humphrey on the tragic death of his father.

Book Reviews.

Pulmonary Tuberculosis. By Maurice Fishberg, M. D., Clinical Professor of Medicine, New York University and Bellevue Hospital Medical College. Cloth. 2nd Edition. Price, $6.50 net. Pp. 744, with 100 engravings and 25 plates. Philadelphia and New York: Lea & Febiger, 1919.

A splendid volume of some 700 pages dealing with Pulmonary Tuberculosis in all of its aspects.

The chapters dealing with Phthisiogenesis are fascinating to read reviewing as they do the more recent conceptions of the time of primary infection with the tubercle. This is aptly described by the quotation "Phthisis is but the last verse of a song, the first verse of which was sung to the infant in its cradle."

The difference between tuberculous infection and tuberculous disease is forcibly emphasized and a great mass of facts and statistics is reviewed in proof of the contention. There are some fine chapters well illustrated, teaching the pathology and morbid anatomy of the disease in all of its various manifestations. Its symptoms are carefully studied and valuable points are discussed.

The importance of skiography in the diagnosis is discussed in some detail and finally some excellent ideas can be obtained in management of these cases. Tuberculin therapy, climate and artificial pneumathorax are dealt with in some space.

This is a valuable edition and contains up to the minute ideas upon that commonest of all diseases. It should be studied by all physicians. W. N. A.

A Text Book of Urology in Men, Women and Children, including Urinary and Sexual Infections. Urethroscopy and Cystoscopy. By Victor Cox Pedersen, A. M., M. D., F. A. C. S. Cloth, Price, $7.00. Pp. 991, with 362 illustrations, of which 153 are original and 13 colored plates. Philadelphia and New York, Lea and Febiger, 1919

For two reasons, Pedersen's Urology should find its particular field of usefulness in the hands of the general practioner and the student.

In the first place, by far the major portion is devoted to a consideration of venereal infections with complications, both in the male and the female, less attention being given to major urological problems. The diseases most extensively treated are those daily encountered in general practice. Each subject is treated in detailed outline form as regards etiology, pathology, symptoms, diagnosis and treatment.

Secondly, this book recommends itself to the general practioner on account of the minute detailed attention given to the technique of the ordinary urological manipulations and to the minor urological operations. There is an abundance of illustrations, covering in every detail the various stages of comparatively simple procedures, such as irrigation and instrumentation; in addition to the careful attention given to the technique of urethroscopy and cystoscopy. It is a knowledge of the simple procedures that is usually taken for granted. While it might be said that the detail of technique is perhaps unnecessarily elaborate, it must be remembered that for the student too great emphasis cannot be placed upon the importance of asepsis and gentleness and precision in all urethral manipulation. E. G. D.

Personal Beauty and Racial Betterment. By Knight Dunlap, Professor of Experimental Psychology in the John Hopkins University, Baltimore. Cloth. Price $1.00. Pp. 95. St. Louis, Mo., C. V. Mosby Co., 1920.

The author in Part 1 discusses the Significance of Beauty predicated on the physical and mental qualities peculiar to the different races. He deals solely with body and mind. Imperial authority for deciding the elements that constitute beauty is vested in the mind. He defines beauty as a sign of fitness for parenthood.

In Part 2 the Conservation of Beauty is discussed. On widening the field in conserving beauty by introducing factors not considered in stock breeding, the author suggests qualities additional to the human body and mind, but does not tell what they are. He admits that Plato was fundamentally wrong in his theory of eugenics, and repudiates the philosophy of the Hun as destructive to humanitarian ideas, yet offers nothing to enlighten the reader on the theme presented. As a theoretical dissertation on the peculiarities of mind, the book is interesting reading. Studied as defining and evaluating beauty it does not enlighten the understanding nor satisfy the heart, and is wholly disappointing as a source of discovery and eradication of the unrest in our social and economic problems. J. M. A.

Arterio Sclerosis and Hypertension. By Louis M. Warfield, A. B., M. D., F. A. C. P. Cloth. 3rd Edition. Price, $4.00 net. Pp. 265, with 60 illustrations. St. Louis, C. V. Mosby Co., 1920.

This book is a very complete discussion on the anatomy, pathology, etiology, diagnosis and prognosis of the subject. The whole volume besides throwing much light on the complexities of hypertension and sclerosis is most interesting to read. This subject is taken up in such a manner that the volume is of value to any practitioner no matter what his specialty may be.

The chapter on cardiac irregularities associated with arterio sclerosis is of special interest, pointing out how arterio sclerosis is really responsible for cardiac irregularities.

Under blood pressure and its clinical application, the part given to surgery is one which most operators should take note of, as it is my opinion that post operative losses would be much less if such signs as indicated were cared for before and during the operation. The discussion on prognosis and prophylaxis is conservative and plainly given as is the short comment on the value of blood pressure.

I was rather disappointed that more was not said on chloride retention in hypertension. R. A. M.

Handbook of Diseases of the Rectum. By Louis J. Hirschman, M. D., F. A. S. C. Professor of Proctology, Detroit College of Medicine; Proctologist, Harper Hospital. 3rd Edition. Cloth. Price, $5.00. Pp. 378. 223 illustrations, mostly original. 4 colored plates. St. Louis: C. V. Mosby Co., 1920.

The book is readable. The first chapter of twelve pages is devoted to the anatomy of the anorectal region, which, however, is not presented in such manner as to give definite guidance to the general practitioner in the course of his examinations of this region. Throughout the book much stress is laid on importance of thorough rectal examination of all cases of anorectal disorders. The illustrations are good, many are superfluous because they are not especially applicable and because they duplicate, and occupy a large portion of the volume of the book. The author gives special attention to the surgical treatment of surgical conditions. Chapter XIII of forty pages is devoted to the subject of Dysentery by John L. Jelks, M. D., F. A. S. C., Memphis, Tennessee. A most interesting and stimulating chapter is on the technic of the use of local anesthesia in the treatment of anorectal diseases. An objection to the book is that it does not aid the busy general practitioner in differential diagnosis where differentiation becomes necessary. L. E. H.

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The Rights of the Patient.*

H. Winnett Orr, M. D., F. A. C. S., Lincoln.

Regardless of the effects of the war, it is apparent to most of us that we live in a rapidly changing world. As members of the medical profession there are certain important changes, it seems to me, with which we should be more familiar. If we are to keep pace with the progress of other important activities we must recognize certain current changes.

The patient is changing his attitude toward his doctor. The doctor is no longer a priest of medicine at whose shrine the patient worships without question. Medicine and the medical man are constantly subjected to scrutiny and criticism. The physician may at any time be called into the courts to explain his acts or a failure to secure expected results. So far neither the laws nor the courts are severe in their requirements of the doctor. If the doctor is put upon the defensive he is expected to establish only that his accuracy of diagnosis, efficiency of treatment, and character of results are up to the average for the area in which he resides. The average in these matters, however is rising rapidly, and largely because of the fact that patients are making more definite demands upon their doctors.

The exact sciences contributed to raising the standard of the practice of medicine. Today they are coming, in large measure, to dominate it. Not only medical men, laboratories, and hospitals are aware but our patients know, that ordinary sore throat can be differentiated from diphtheria by a bacteriological examination. They are learning that ulcer of the stomach and cancer can be distinguished early and most patients refuse to be treated indefinitely for "dyspepsia." Patients are beginning to estimate results in the treatment of fracture by the amount of deformity and shortening, and to know that in large measure bad results can be avoided.

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*Address of the President before the Nebraska State Medical Association, Omaha, Neb., May 24-26, 1920.

Many of our patients are discussing their symptoms and appraising their doctors in terms which many of us have supposed would always be foreign to them.

All of this change has been enormously hastened by our military experience. Thousands of our boys who had been complaining of rheumatism made the discovery for the first time upon medical examination for admission to the army that they had weak foot or flat foot. They are no longer taking medicine for rheumatism.

Our military experience proved to us that it is possible to reduce to more or less accurate figures the results of medical service. It was demonstrated in figures that certain hospitals, certain commanding officers, certain chiefs of services, and certain ward surgeons and ward medical officers did better work than others.

The practice of medicine by individual doctors was brought plainly into the limelight where it could be, and was, examined, appraised, and if necessary, criticised.

H. Winnett Orr, M. D., F. A. C. S.

In my first paper before this Association twenty years ago, I argued that better standing for the medical profession could only come through taking our patients more completely into our confidence on professional matters. They came into our confidence without asking during the war. They watched us operate upon, splint, and treat our patients. Moreover, they stood by and observed our results. Officers and enlisted men knew whether or not fractures were uniting properly, whether or not wounds were healing, and whether or not supposedly clean surgical procedures were followed by infection, and more often than not, they could tell why.

There is only one answer to all this. That is, that as members of one of the greatest of the learned professions, we must render our patients better service than, on the whole, we have been doing.

Having been elected to the presidency of this association with a very strong military plank in my platform, I am taking the liberty of bringing to you one of my own principal lessons from the war. I am speaking frankly of a few things not often considered in connection with the service of the medical corps.

Because the facts are from a special experience in my own specialty, and because the observations were made almost entirely by me personally, I shall illustrate my point by quoting a few figures on the treatment of battle casualties.

It is proper to say in advance that excellent splint standards were set up by the Chief Surgeon of the American Expeditionary Force and by his associates, the Chief Consultant in Surgery and the Chief Consultant in Orthopedic Surgery. At the request of the latter, Col. Joel E. Goldthwait of Boston, a special splints committee was convened by the Chief Surgeon, A. E. F. Many splints were examined and certain ones adopted as standard for the American Army in France. A splint manual describing these splints and their use was issued. When surgical services or ward surgeons were at fault it was because they were either indifferent to the requirements or were not in sympathy with the methods proposed.

It has not been possible to tabulate statistics upon my entire experience. However, I have selected as typical, the patients seen at the Savenay Hospital center, Base Section No. 1, A. E. F., during August and September, 1918. During that period about 4,000 patients classified as orthopedic cases were received from other hospitals. They were checked as they came into Savenay as to their condition upon arrival. Later the number of patients seen in this way became much larger, but the statistics I have for the earlier period are more accurate.

These patients were classified into four groups. First, those without deformity and in whom no deformity was to be expected. Second, those who had impending deformity but who were adequately protected by proper splints. Third, those who had deformity or impending deformity and who were wearing splints but who required surgical correction, change of splint, or both. Fourth, those who had deformity, or in whom it might be expected but who were wearing no splints whatever.

It will have to be borne in mind that these patients all came into Savenay by train or ambulance, usually the former. Those who had a serious injury sometimes came with considerable discomfort and pain because of lack of splint protection. Others had been without splints for some time and had to be anaesthetized, operated upon, manipulated, or readjusted before they could be rendered fit for transportation to the United States. A large number had never had splints at all.

It is well to mention that a certain percentage of patients lacking splints or more thorough care, were so, because of the difficult conditions under which their previous hospital care had been given. This, however, does not apply to all.

From a very extended observation not only of patients but of hospitals in France, I feel free to say that there were instances in the military service as in civil practice of failure to provide adequate splint protection and treatment. These resulted, either from failure of the patient to get the best attention that his doctor might have given, or from the fact that his surgeon failed to realize the necessity and importance of maintenance of correct position or correction of position with adequate splint protection for the condition in which the patient presented himself. This I especially want to emphasize, is a peace time, not merely a war time fault.

Of the 4,000 orthopedic patients arriving in Savenay during August and September, 1918, about two thousand fell into the classes designated above as three and four. That is, those in class three required revision of position and change of splint. Those in class four required splints, but had none. There were about one thousand falling into each of these classes.

It was interesting to notice that there were certain fractures which were well splinted and certain others which were not. It is not very much to our credit to say that in general only the easier splinting was done. That which called for special apparatus or special work was often neglected. Gunshot fractures of the shoulder were poorly splinted. About three-fourths of seventy-two of these patients had no splints whatever. Aeroplane splints were hard to get. We ourselves made nearly all such splints used at Savenay. Fractures of the humerus were splinted better. Almost every hospital had the Jones humerus traction splints for these cases. In all we had one hundred fifty-six cases of which fifty-five had no splints.

Gunshot fractures of the elbow joint were poorly splinted. One-third of sixty-one cases had no splints. Gunshot injuries of the forearm and hand were poorly splinted. In all, during August and September we received three hundred sixty of these cases, one hundred twenty of which had no splints. Practically all of the other patients in this class came to us in straight Thomas arm splints with forearms pronated. These positions usually had to be revised, elbows bent and forearms partly supinated. This was sometimes a difficult procedure.

Gunshot wounds of the nerves without fracture were poorly splinted. At least one-third of the gunshot wounds of the musculospiral nerve with drop wrist had no splints. Most of the remainder had straight board splints. The splint manuals taught us that these cases should have been wearing cock up splints.

Femurs were well splinted. Of one hundred forty cases only twenty were without splints, while the remainder all had to be revised, these were splints which easily became disarranged during transportation. Generous allowance had to be made on this account.

It was interesting to note how poorly injured knees were splinted. I still feel that this was due to a too enthusiastic popularization of the idea that septic joints may be kept moving. Out of ninety of these cases fifty were received with no splint. Many were suffering from lack of them. The same was true of injury to the sciatic or external popliteal nerve. Of seventy-two such cases with drop foot, fifty had no splint, many had never had a splint.

In leg fractures there was an astonishing number of deformities without splints. This was due largely to the difficulty of splinting compound fractures of the leg. By the same token, however, these same cases were suffering particularly from lack of splints. There were one hundred ninety-two such cases of which sixty-nine had no splint.

Compound wounds of the foot and ankle were also poorly splinted. This was particularly unfortunate inasmuch as many of these patients were developing drop foot with fixed deformity. This is a point that is often overlooked in civil practice. There were two hundred forty of these cases, of whom one hundred twenty-nine had no splints.

In wounds of the soft parts without fracture, the importance of splinting was also frequently overlooked. Gunshot wounds of the upper and lower extremities without fracture but with developed or developing deformity, numbered two hundred sixty-five cases. Of these one hundred thirty-four were without splints.

These figures are not given as a criticism of the military hospitals or of the military organization. Many of the hospitals were operated under great difficulties. Patients often had to be moved from outside hospitals to our center without much warning.

Officers, patients and enlisted men often complained not only when splints had been removed too soon but when they had been applied poorly or not applied at all. Alongside of other well treated similar cases they came to have very definite ideas as to what they needed and were entitled to have. There came to be not only from headquarters, but from the patients themselves and from their orderlies and nurses a definite demand for the better methods of surgical and splint care.

It became possible to formulate rules for splinting, standard methods as well as standard splints were used. In hospitals and wards where this was done the work was materially better and the results were better. And in hospitals and wards where standard methods and splints were not used the results were not so good, and the same is true now.

To these things I desire to call your attention. Everything done wrong by any doctor, in or out of the military service, is still charged up to us all, to the profession as a whole, as faults which are still permitted to exist either in or alongside of our professional work. So in many respects, we still fall short of the requirements and the demands of our patients.

Especially in fractures is the patient able to judge the character of his result. His demands are increasingly more rigid. Accuracy of diagnosis and efficiency of treatment can be determined by our competitors or by the courts. Any measure of failure on our part leaves us open to criticism.

In our military work, standards were more definitely fixed. In fact they became to a large extent actually established. There results proved to us beyond question that our civilian standards of splinting and post operative care for bone and joint surgery, are too low. The mistakes that were made in war surgery are simply the mistakes of civilian surgery. We can only improve by taking heed of this large amount of evidence from the war.

I feel compelled to say to you, that surgeons in general (not general surgeons, particularly) whether in France or here, have not been receptive enough in these matters. We have gained all too little out of this war, so far. Let us add what we can to our medical and surgical knowledge. Or shall we too by internal differences, fail to profit by the larger lessons of the war?

One answer lies in further special study and further specialism. There is, however, a great deal of criticism of the specialist. Those who do not limit themselves to a specialty in medicine, should remember that the specialist not only sets himself up to do certain things better than his fellow practitioner but that he at the same time renounces a large portion of the field of medical practice. He admits his incompetence to take care of patients in any branch of medicine except in his own specialty.

The best of our general surgeons may in their earlier days have been successful diagnosticians of pneumonia or successful practitioners of obstetrics. In limiting themselves to surgery, however, they renounce the other fields to those who are better qualified. The answer to many of our difficulties then, I am sure may be found in further specialization.

Most of the patients who have been inadequately treated, have never been successfully diagnosed. At the present time, a great deal of our treatmnt is automatic, if a comprehensive diagnosis has been made at the beginning. At any rate standard methods of treatment are available in our very excellent modern literature.

There is one way of dealing with our patients, that I believe will go a long way toward setting us right with them. That is to give them a written, signed statement of diagnosis, treatment, prognosis, or whatever they come to us for. That is what they pay us for—not to be kept in the dark or to be misinformed.

I have no confidence in the doctrine that it is a bad thing for patients to know what they have and what they are taking. That is the sort of thing that quackery and dishonesty thrive upon.

Let us deal fairly with our patients. Let them have their diagnoses, their X-ray plates, and their right to be treated where they please. It is the only way for them to find out who will treat them honestly, intelligently, and if you please, skillfully. The ones who are least competent to judge for themselves are most entitled to our consideration and the greatest frankness. The occasions which call for variation from this line of action should be the exception, and not as at present, the rule.

Better work and more of it; is the only way to defeat the absurd claims of irregular and incompetent medical competitors.

The members of this Association represent all of the best that there is in the medical profession of Nebraska. There is a considerable unworthy element, however, listed upon our state and county registration books. A very considerable number of these gained admission to the medical corps of the United States Army, and they were responsible for many of the opportunities for criticism.

These unworthy ones are our competitors in civil practice. We should spare no pains to show the general public that not everyone who calls himself a doctor is competent to meet the varied demands of general or special practice. Let us furnish our patients and the public generally with the kind of information upon which a line can be drawn between those who are competent to practice medicine and those who are not, and in due time the line will be tightly drawn.

Intestinal Indigestion in School Children.*

H. M. McClanahan, M. D., Omaha.

In this paper is presented a review of the histories of ninety-six children, ranging in age from 6 to 12 years, that have been under my care and treatment during the last five years. The chief symptoms in all of these cases pertained to the gastro-intestinal system. There were contributing factors that I shall mention later, but in none was there any organic disease. The outcome of the cases verified the conclusion that perverted function, what might be termed functional pathology of the digestive organs, was the cause of the symptoms. All cases having any recognized organic lesions, even though associated with digestive symptoms, were eliminated from the foregoing list. The age limit is purely arbitrary, and is chosen for the following reasons:

1. This is the school age, when the influence of school life and school discipline is operative.
2. It is the period when children are thrown on their own resources, frequently with no supervision of their bodily functions.
3. It is the age of transition from the deciduous to the permanent teeth.

Predisposing Causes.

Heredity: Heredity is defined as the acquisition of certain qualities and tendencies, both physical and mental, from our ancestors. On the physical side are height, weight, color of the hair and eyes, varying types of countenance and certain peculiarities of gait or movements. The nervous system is influenced by heredity and this may be manifested by an unstable condition of the higher neurons. The evidence is a lack of inhibition as shown by emotional conditions, such as anger, fear or sleeplessness. The stress of school life is shown by mental fatigue and poor memory. Cases of defective development—mongolian idiots, morons or other defectives—are not included in this discussion. The relation of heredity to digestion resides in the fact that the nervous system controls the secretions of the digestive organs. The endocrine glands are also influenced. Emotions cause the tears to flow, and the sight or odor of savory foods induces a flow of saliva.

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*Read before the section Diseases of Children at the A. M. A. convention, April 26-29, 1920, New Orleans, La.

The nervous child, often quick, irritable and eating rapidly, will develop digestive disturbances as a result of this nervous instability even with a proper diet. As a natural corollary relief depends on correction of the nervous condition.

In twenty-four cases in this series, there was a history of some nervous condition in one or both parents. However, there were children whose heredity seemed good but who developed nervous symptoms, including irritability and sleeplessness, probably as a result of the environment or the stress of school life.

Home Conditions: These include the meal hours, the character and variety of the food, ventilation of the sleeping rooms, and hours of rest. The relation of parents to children has a decided influence on the well-being of the child. For example, some parents constantly scold and nag their children and often are not firm in controlling their modes of eating and habits of life. Three children in the foregoing list improved only by being removed from the home environment.

Habits of the Child: Children of this age are often left to their own devices. The child is not responsible for the character and preparation of the food. His habit of eating, including the rapidity of eating, proper mastication of the food, and eating between meals, are largely under his control. The functions of the intestines and kidneys are left to the child to regulate.

Contributing Factors.

Tonsils and Adenoids: In twenty-seven of the cases there were diseased tonsils and in ten of these the adenoids were sufficiently large to cause mouth breathing. The improvement in some of these cases after removal of the tonsils and adenoids was indeed striking. It is difficult to give the reason for improvement. Various theories have been advanced, namely, that from the diseased tonsils there are constantly being swallowed poisons that inhibit digestion. The systemic infection as a result of diseased tonsils lowers the resistance, and the adenoids interfere with a proper supply of oxygen. Dr. Mayo of Rochester has recently suggested that adenoids inhibit the function of the thyroid. The subject of focal infection is a large one, and I shall not attempt to discuss it. However, the clinical facts stand out clearly that in these cases there was decided improvement. In ten of the cases, the tonsils and adenoids had been removed before the patients came to me and the parents expressed disappointment that there was no improvement. These cases under proper dietetic and medical treatment were greatly benefited.

Teeth: The relation of the teeth to digestion is a very intimate one. This is the age of transition from the deciduous to the permanent teeth. In many children the shedding of the deciduous teeth is not a physiologic process. Twenty-five had diseased teeth. No doubt decayed teeth, often with infected peridental structure, have a pernicious influence as a result of absorption of toxins. However, in my observation, painful mastication due to infected teeth was the chief factor. I recall one boy, aged 8, below weight, with hemoglobin of 60 per cent. (Tallquist scale), whose urine was loaded with indican and who had a history of constipation and attacks of vomiting of undigested food. On being asked if he chewed his food, he said that he did not because it hurt him. I requested him to bite on a wooden spatula, when it became evident that the lower bicuspids were painful. These were extracted, some of his other teeth were filled, and he was given directions about the toilet of his mouth. The following month he gained 8 pounds in weight, and he has since continued in good health. In three cases there was malposition of the teeth. These patients were referred to the orthodontist with decided benefit.

Character of the Food: My experience is that children of this age as a rule eat too high a proportion of animal protein food and use excessive amounts of sugar, chiefly in the form of candy. In some of the cases I learned that the children were buying candy daily. Another fact elicited was that the majority of children do not eat a sufficient quantity of leafy vegetables and cereals. I learned that many do not drink milk at all. A considerable number do not have any fruit in their diet. While the fruits are not essential to life, they are very useful in aiding elimination. As a rule, there was in this group an excess of the acid type of foods in the diet. The effect of treatment convinced me that the diet was the cause of constipation in many cases and of excess of indican in all.

Anatomic Conditions: Under this heading are included cases of ptosis, slight degrees of megacolon, long sigmoid and anal fissure. Three of the latter were relieved by local treatment. Seven of these cases were subjected to roentgen-ray and fluoroscopic examination. These were all cases of obstinate constipation, and all revealed some anatomic anomaly. Fluoroscopic examination is decidedly more valuable than a roentgenogram. As I look back, I think a number of others should have had roentgen-ray examinations. Dr. C. G. Kerley of New York has done much valuable work in this line. In a personal communication, under date of February 13, he wrote to me as follows:

> In our total number of cases examined by Roentgen ray, probably about seventy in all, treatment along common sense lines as suggested by Roentgen-ray findings resulted most satisfactorily in probably 90 percent of the cases. In our investigations we have encountered almost every kind of anomaly, both congenital and acquired. Nearly all the cases, by the way, are acquired.

Examination.

All patients were subjected to examination, including general inspection, auscultation of the chest, palpation of the abdomen, inspection of the mouth, throat, tongue and teeth, and testing of reflexes. In ten cases the von Pirquet tuberculin test was performed; all were negative. These were children with a cough or other suspicious symptoms of tuberculosis. In nineteen cases the blood was examined. These were all cases with evidences of anemia, and all proved to be cases of secondary anemia. The hemoglobin was as low as 40 percent in three children.

Urine: In all cases the urine was examined repeatedly for albumin, sugar and indican, and the specific gravity was determined. I attach importance to the presence of indican. The test employed was a modified Heller's test. Reference to modern textbooks, however, reveals that most authorities look on the presence of indican as having no significance. As is well known, it is the product of intestinal putrefaction or infection which is found in such conditions as empyema, appendicitis and other pus foci. Any one who will put one of these patients with indigestion on a proper diet, with good elimination, will find that the indican will largely disappear from the urine. In this connection there were five cases of alimentary glycosuria. This was a surprise, as there were no other symptoms of diabetes, but I learned that all of these patients were eating candy almost daily. After correction of the diet, the sugar disappeared from the urine and did not return.

Symptoms.

Change in Weight: Fifty of the children were underweight and ten of them were overweight, according to the American scale. In three, the increase was due simply to an accumulation of fat. In seven others the weight was normal for the height, but in excess for the age. In those showing underweight there was a gain under proper treatment in all cases except five. These were nervous children with bad heredity, who while they improved in general health made only a slight gain in weight, but all increased in height.

Sleep: Careful inquiry elicited the fact that many of the children—especially those of foreign birth—were accustomed to sleep in rooms with windows closed. Many were restless in sleep. Five of them gave a history of night terrors, twenty-six gave a history of bad dreams, and grinding of the teeth was stated to be present in fifty of these cases. Fourteen suffered from enuresis, ten of these being relieved under general treatment. Dr. Grover of Boston, in a paper before the Pediatric Section of the American Medical Association in 1918, showed that most cases of enuresis depend on an unstable nervous system.

Headaches: Headache was mentioned in nineteen of the cases. In nearly all of these, the headache was more marked in the morning, that is, the children arose with headache. Six of the cases gave evidence of eyestrain, and were referred to an oculist for adjustment of glasses with benefit. The others improved under treatment.

Condition of the Nervous System: All cases having recognizable organic lesions were eliminated from this list. Many of the children were irritable and quarrelsome, they could not sit still, bit their finger nails, were disobedient and untruthful. One mother said her boy lied just like his father. All these symptoms point to an unstable condition of the nervous system with nerve exhaustion.

Condition of the Intestines: Assuming that constipation means failure to have a daily bowel movement, fifty-two of these children were constipated. This was the chief reason for seeking medical aid. Ten had occasional attacks of diarrhea. In only five cases was a history of emesis given.

Intestinal Parasites: In seven of the cases intestinal parasites were discovered. Four were hosts to ascaris, two to taenia and one to oxyuris. I do not know that the parasites bore any relation to the indigestion. However, two improved after the expulsion of round worms. In many of the cases the mothers believed that worms were the cause of the symptoms. In ten cases I gave a vermifuge in order to ascertain if worms were present, and in two of these cases round worms were expelled.

Abdominal Conditions: It is assumed that in the normal condition the abdomen and chest are about on a level when the patient is lying down. In twenty-five of the cases there was abdominal distention due to gas. Tenderness on pressure was present in eleven of the cases; in six it was in the upper abdomen, and in five it was more marked in the lower right side. During the period of treatment these five patients were operated on for the removal of the appendix, and in four there was decided improvement after the operation. It is evident from this that chronic appendicitis may cause dyspeptic symptoms. In one case there was no improvement. Pain after eating was the complaint in twenty-one of the cases. This symptom was often relieved by the eructation of gas. Some had a sense of fullness rather than pain. In thirty of the cases the liver was enlarged, and all of these children were on a high carbohydrate diet with excess of candy.

Tongue: In many the tongue was coated. Often the coating had a yellowish white tinge, the bilious tongue of older writers. In nine it was beefy red. These cases were also associated with epigastric tenderness on pressure. In others the tongue was flabby, showing the imprint of the teeth.

Appetite: Poor appetite was mentioned in thirty-three cases. Craving for certain article of diet, such as pickles, sauerkraut and other indigestible food, was mentioned in several cases. Many did not care to eat breakfast, and some were never hungry. Only ten gave a history of overeating.

Treatment.

All cases here reported have been under my care for from six months to five years or more.

Intelligent Cooperation of the Mother: I place this first in importance because without the mother's aid our efforts at treatment accomplish little. This includes the preparation and variety of the food, the supervision of eating, seeing that the patient is in bed at the proper time, ventilation of the bedroom, the taking of rest and exercise as directed (some play too long, some not long enough), and her relation to the child in securing its affection and cooperation. When necessary to discipline the child, it should be done when alone and never in the presence of others. I direct the mother to be truthful and never to make a threat unless she expects to carry it out.

Good Will and Obedience of the Child: In all these cases I talk to the child and explain to it that if it will follow my directions improvement will result. This appeal to the child's pride and getting it to feel that it is in partnership with the physician, and that the latter is interested in its welfare, are really a vital point in the treatment. The psychology of the physician's influence over the child merits the pediatrician's attention.

Diet and Habits of Eating: It has been my rule to write out for the mother a simple, well-balanced diet. In this diet I have included the cereals, milk, meat only once a day, potatoes, rice and tapioca and such vegetables as parsnips, carrots, beets, cauliflower, squash, lettuce, celery, etc. In all cases I have recommended fruit, both cooked and raw. However, I am convinced there are some children who cannot eat the seeded fruits without injury. The diet, of course, is varied with the individual case. Tea and coffee are not allowed.

In the ten cases with a history of overweight, I eliminated sugar and candy. For anemic children I often prescribe spinach at least twice a week because of its high iron content. Regular hours for eating are insisted on. Thorough mastication is emphasized in every case. The injurious habit of eating between meals is explained and prohibited. Many of these children are allowed a little candy after meals. To my observation, milk as an article of diet is not fully appreciated. Every child should have 1 pint of milk daily. In eleven of these undernourished cases, anemic and below weight, I prescribed a glass of milk at bedtime with benefit in all.

Sleep and Rest: I have regularly explained to the mother the importance of sleep to the growing child. In many of the cases I have asked that the children be kept in bed nine hours. With many of them—twenty-one in this series—I have required an hour's rest during the day, generally on return from school. I think it is really remarkable how much this helps in conserving their nervous energy. Seven patients in whom improvement was not satisfactory, were required to remain out of school for two or more weeks in order to hasten improvement. In these cases two rest periods during the day were ordered.

Baths: I have asked that all the children have a general bath once a week. I have observed that those who were restless sleepers were greatly benefited by a hot foot bath at bedtime. In many of the cases I regularly prescribed a vinegar and water rub every other night on retiring. This improves circulation and soothes the nervous system.

Drug Treatment: Drugs have an important place in the treatment, but often they are used to excess. In my experience, the majority of people are very willing to give drugs to children, and it is certainly better that these should be given under the direction of a physician. Again, unless the foregoing principles of treatment are carried out, remedies, cannot have their proper effect.

First, of the remedies used for the relief of constipation in cases having a coated tongue, I am in the habit of giving the following powder once a week:

Resin podophylin	gr. 1/10
Rhubarb	gr. ii
Sodium bicarbonate	gr. v

This is given at bedtime, and the following morning before breakfast a cathartic is given, usually sodium sulphate in hot water. A little lemon juice added to this will make it rather more palatable. Podophyllin acts on the small intestine in an alkaline medium. It is not drastic except in large doses, and I do not believe it produces after constipation.

Where the stools were hard, mineral oil was of advantage in fifteen cases; in five it produced no result. A tablespoonful is usually sufficient and is given at bedtime. Its action is purely mechanical, and as soon as the intestines move once each day, the oil is given every other night. I question the wisdom of the prolonged use of the oil, as I believe it interferes with the absorption of the food. For this reason it is given at bedtime that it may pass through the small intestine before the morning meal.

Another cathartic is a combination of equal parts of fluid extract of senna and aromatic cascara, from one-half to 1 teaspoonful at bedtime. In cases of meteroism, I have found milk of magnesia, one-half ounce at bedtime, of apparent benefit.

I make it a rule to have the child go to the toilet each day, if possible in the morning. Many families do not have breakfast early enough and the child has to hasten to school. In these cases I have the child go to the toilet at noon. If the intestines fail to move after a reasonable effort, then I give either a soap suppository or soapsuds enema. As children usually dread this procedure, they are willing to make an effort.

In twelve of the series of cases with pain after eating, I resorted to the hot packs over the stomach for fifteen minutes immediately after the meal. The mother is directed to change the flannel pack every two or three minutes, and in this way a distinct redness of the skin is produced.

I believe in the use of bitter tonics after meals, and that which I use most frequently is tincture of nux vomica alone. In other cases it is combined as follows:

Tincture of nux vomica	ʒ ii
Dilute hydrochloric acid	ʒ ii
Essence of pepsin	℥ iii
Compound glycerinated elixir of gentian	℥ vi

It may be objected that this solution contains a considerable amount of alcohol; the bitter taste, however, prevents the danger of forming any habit. In those cases having a secondary anemia, iron is of decided benefit. If the patient is able to swallow a pill—and most children of this age can—I use Blaud's pill, 3 grains, usually giving one morning and night. Again, in three cases with considerable abdominal distention associated with pain, the abdominal binder gave decided relief. As one mother remarked, "it acted like magic." These were patients examined by the roentgen ray in whom there was visceroptosis.

Conclusions.

Children with intestinal indigestion make satisfactory cases for treatment if cooperation of the patient and parent are secured.

In my observation most of these patients had received domestic treatment chiefly in the way of excessive administration of cathartics and enemas without proper attention to the diet and other important points, all without benefit.

The most important point to be borne in mind is that there is no organic lesion of the digestive tract, and that the condition results from an incorrect regimen of some kind. In some cases this may be referable to the habits of eating or sleeping or exercise, in others to overwork at school, and in still others to incorrect handling at home.

It is, therefore, necessary to examine the child thoroughly and also to inquire into its regime of life. In other words, treatment is to be directed to the whole child with special reference to its harmony with its environment.

Malignancies of the Mouth and Neck.*

E. H. Skinner, M. D., Kansas City, Mo.

An experience with radium and X-ray over a period of years will bring us to the realization that the results of surgical treatment can be duplicated in many cases, improved upon in some, and successfully aided in others. Dependence upon surgery alone is hardly justifiable. There are certain lesions where radium or X-ray are absolutely demanded.

It may be well to dispose of these conditions so amenable to radiotherapy by brief mention.

Leucoplakia.

Leucoplakia melts away under radiotherapy like snow before the sun. Before possessing radium it was possible to achieve results wherever the X-ray could be easily applied but the anatomy of the parts limited its application. The ease with which radium can be applied upon dental-rubber-impression-compound to any and all parts of the mouth brings leucoplakia quickly under control. In fact, our experience brings us to the belief that radium is a specific treatment for leucoplakia. The dosage varies according to the depth of the lesion but it seems necessary to secure a rather violent reaction to hasten results. It is interesting to note that that pioneer radiotherapist, Abbe, stated in 1913 that leucoplakia has no curative remedy unless it be radium.

Lympho-Sarcoma.

A second condition where radiotherapy seems to be almost a specific is lympho-sarcoma of the neck. Where the case comes to radiotherapy while it is still a boggy mass and the patient is still in good general health, we have never failed to secure a result. We treat these patients with both radium and X-rays every three weeks. The growth usually reduces more than 60% within the first three weeks and has entirely vanished within two months. The treatment must be continued longer however to insure permanency of results. The rapidity of results frequently finds the patient loathe to return for the prophylactic exposures necessary to prevent recurrence. Even though surgery is used to remove the bulk of the growth, radiotherapy is essential, as a post-operative measure, for a period of months. Undoubtedly the success of radiotherapy in lympho-sarcoma accounts for the fact that in many of the best surgical clinics, their cases are turned over to radium treatment as soon as the immediate operative tissue analysis reveals the diagnosis without removal of the growth.

Epulis.

These near-sarcomas of the alveolar portions of the superior and inferior maxillae appear to be easily amenable to surgical ablation by the knife or actual cautery. Unfortunately however they recur. The post-operative use of radium is the best sort of insurance against their recurrence. Very small and early lesions may be taken care of by radiation alone but wherever there is much tumor formation it is best to remove the excess tissue by cautery or diathermy and irradiate the base. Glandular metastasis is not encountered in this condition, so the radiation post-operatively can be limited to the original site of the lesion.

Osteo-Sarcomas.

Osteo-sarcomas of the maxillae and antrum of Highmore lend themselves to a combination of surgery and radiotherapy. It seems difficult to impress surgeons with the ability of radiotherapy to influence sarcomatous tissue.

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*Read before the Omaha Roentgen Ray Society, March 27, 1920.

For years we have been able to show results in osteo-sarcomas with radiant energy as a primary treatment. Pfahler has reported a series of cases and New has reported a remarkable series where the actual cautery was used to remove the tumor mass and portions of the superior maxilla and then radium in large doses planted in the bottom of the wound.

I have one case of sarcoma of the right eye and right maxillary sinus in which the eye was enucleated with immediate recurrence. There was a second operation to clean out the orbit and ethmoid cells. Recurrence was almost immediate. The case was then presented for radium and X-ray. It was possible to force the radium tubes into the orbital mass and ethmoid cells and via the nose we could insert a 50 mg. radium tube into the antrum.

X-ray was applied through multiple portals of entry upon the cheek and the neck, where glandular enlargement was apparent. The recession of the visible signs of the disease was remarkable after two weeks and after six weeks the parts were all reduced to normal and the socket seemed ready for an artificial eye. This case has remained well for six months but we are keeping up the prophylactic raying of the glands and antrum and have not permitted a glass eye because it might be an irritation.

Another case of antral sarcoma has been operated upon with the actual cautery, using New's water-coated speculum to protect the cheek and then radium placed at the operative wound. Both maxillary sinuses and alveolar portions have been removed but the nasal walls preserved. The cheek areas are flattened but otherwise the facial symmetery and speech is maintained even though the floor of the orbits form part of the roof of the mouth. This growth is a very malignant type of growth and glandular metastasis was present in the neck. The patient has been under treatment for eight months and is in a favorable condition. It is remarkable how the glandular metastasis is held in check and then gradually reduced by persistent X-ray dosage.

Osteo-Chondroma.

We have had three cases of osteo-chondroma of the larynx, two of which had been reoperated twice for recurrence. All of these have been completely relieved—the oldest case being 5 years. The case which has not recurred was referred for post-operative radio-therapy immediately from the Mayo clinic. It is necessary to ray these cases vigorously and for a period of six months after there are no signs of the recurrences left. They tend to flare up again if vigilant raying is not maintained over a long period. This was demonstrated in the 5-year case as one series of exposures would reduce the recurrences and the patient would not keep up the treatments until we insisted upon his guarantee to continue radiotherapy for one year at definite intervals. It really only required four successive series to establish the cure in this case which has persisted for five years.

Tonsillar Cancer.

Three cases of tonsillar cancer have been distinctly inoperable with gross glandular involvement. The discomfort, pain, odor and distress of these patients is most pitiable. It is always easy to insert radium tubes directly into the growth and the enlarged neck area provides opportunity for innumerable portals of X-ray therapy. We have never cured a case but surely you would be surprised at the relief of the distressing symptoms and the reduction of the glands and cleaning up of the tonsillar growth. One of these patients was still alive two years after treatment had reduced the tissues and checked the growth. There is always relief from odor and the major portion of the pain.

Cancer of the Tongue.

Cancer of the tongue is presented to the radiotherapist in either the hopelessly inoperable state or in the very early stages of a minute ulceration or irritative lesion.

The inoperable lesion is a deplorable situation—it taxes one's sympathy and ingenuity. But the use of radium and X-ray does furnish some temporizing features which warrant our efforts. The greatest danger is in over-treating with radium and obtaining reactions which add to the distress of the patient at the same time that the pain and odor are relieved.

Certain adjuvant treatment is valuable. Alcoholic solutions of atropine given in doses which relieve the patient of the excessive ptyalism is beneficial. Packing the lesion with soda bicarbonate at daily intervals. Potassium chlorate as a mouth wash. Tannic acid as an astringent. Papaine for pain. Morphine and atropine whenever necessary to keep the patient comfortable, for these poor patients are entitled to as much comfort as we can afford them.

The early mucous lesion upon the tongue can be managed with radium to the lesion and thorough X-ray blocking to the lymphatics of the neck. This blocking of the lymphatics by X-ray is worthy of attention even by surgeons who operate upon these cases. The surgery of mouth carcinoma is never complete without a block dissection of the glands which drain the mouth and there is ample demand in the writings of Butlin, Cheatle, Blair and Beckman that the glands under the sterno-mastoid muscle, even down to the trachea, must be included in the dissection to offer any chance to the patient. From the recurrences that are presented following such operations, it seems doubtful whether the surgeon has been thorough enough and whether the whole procedure is worth the effort in view of the ability of the X-ray to check lymph glands by persistent deep therapy. Upon the contrary, it is no doubt true that there is a great deal of chance in securing successful deep Roentgen therapy. So many radiotherapists are fearful of burns and so unmindful of the true meaning of cross-fire that the patient may not secure all the benefits that this method promises in fearless, experienced hands. This is as surely major roentgenology as major surgery.

Cancer of the Lip.

Every radiotherapist can show results in carcinoma of the lip and in the various stages. Some years ago both Bloodgood and Blair wrote excellently upon the requirements of correct surgery. Undoubtedly they were not familiar with radiotherapy and adjuvant measures such as electro-coagulation.

Even by courageous fearless operators it is admitted that the removal of all indurated glands is necessary—a block dissections including the lowest glands (Butlin). Otherwise the procedure proves useless. It has been demonstrated that lymph glands are shriveled and fibrosed and their activity destroyed by sufficient radiation. How often do we note in raying the neck for Hodgkin's disease or tuberculous glands that the patient complains of a progressive dryness of the mouth? This has surely been the experience of many doing intensive deep therapy. The maintenance of this is some indication of blocked lymphatics.

It is worth noting that in malignancies the denser the lesion the more promptly does it respond to radiotherapy. Contrarily, the more soft or papillomatous the lesion, the more difficult to secure any radio-effect. Therefore, one should seek to eradicate papillomata, epuli, sarcomatous detritus and debris and dirty ulcer bases by diathermy or surgery before applying radiotherapy.

Always plan to get down to the tissues that are capable of granulations and then apply radium to the actual lesion and X-ray to the lymphatics tributary thereto.

Bloodgood showed so conclusively that the best results of lip carcinoma surgery were obtained when there was removal of all glands of the neck with the small original lesion. It is not fair to the patient to simply remove the lip lesion and trust to failure of the glands to develop metastasis. Neither is it fair for the radiologist to simply eradicate the lip lesion without giving the glands of the neck intensive radiotherapy for several monthly periods.

There undoubtedly should be more cooperation among surgeons and radiologists in the management of malignancy. The one fortifies the other. There should not be any conflict between the surgeon and radiologist. Both should realize their limitations and join forces rather than display discord.

Technique.

The following summary of radio-technique merits our attention:

1. Radium is more reliable than the X-ray in the orifices, sinuses and upon all mucous membranes. Its radius of activity rarely exceeds 2 cm. and unless large amounts are available with heavy filtration it does not compete with deep Roentgen therapy for cross-fire irradiation through healthy tissues to a deep malignancy.

2. Roentgen rays in huge doses, of high spark gap, ample protective filtration of metal and leather through multiple portals of entry with cross-fire direction is essential in all glandular metastasis and in prophylactic irradiation.

3. Electro-coagulation and surgery are useful in removing malignant masses, thus shortening the period of irradiation and saving the general strength of the patient.

4. All cancer patients are more comfortable if thoroughly alkalized by soda bicar-

bonate, potassium citrate, potassium bitartrate, milk of magnesia, kalax water, magnesium sulphate by mouth and enema. Urotropine and salol are remedies to choose and combine.

5. Radium without sufficient filtration gives immediate superficial effects; with filtration and distance the deeper effects are achieved. These principles must be carefully observed.

6. It requires six times the filtered dose of the X-ray that the skin will tolerate to produce an erythema dose 7.5 to 10 cm. deep; therefore cross-firing through six portals of skin entry are essential to every deep area that it is proposed to irradiate properly.

7. The skin may be increased in radiotoleration by alkaline washes and sun baths.

8. No radiotherapy of any deep lesion is going to be considered successfully completed unless the coarse hair disappears and the skin tans under exposures with heavy filtration, high spark gap, short distance and the total tolerance of time.

The Value of the Lumbar Puncture as a Diagnostic and Therapeutic Procedure.*

A. A. Johnson, M. D., Omaha.

Quincke reported his first work on lumbar puncture in the diagnosis of disease in 1891. Nothing appeared in the literature for two years after. Then Lichtheim reported a few cases and in 1895 Fubringer reported 107 punctures in 80 cases. In 1894 Browning and in 1896 Jacoby in New York reported series of cases. Since 1896 spinal puncture has been quite commonly used as a routine procedure for diagnostic and therapeutic purposes. As serology, chemistry and bacteriology advance, much greater progress will be made in this procedure for treatment and therapeutic purposes.

In 1911 the value of lumbar puncture in the diagnosis and treatment of disease first came prominently to my attention. At that time as pathologist of the Cleveland City Hospital I was able to study in a large series of cases the spinal fluids in epidemic meningitis, cerebro-spinal syphilis and various other types of meningeal irritation.

All of us appreciate the great value derived by lumbar puncture in the treatment of epidemic meningitis. Here the mistake is too often made in not doing the puncture early enough and not often enough. The puncture should be made at the earliest moment and not when the condition has become markedly indicative of meningeal irritation. It can do no harm if properly performed, and on the other hand such a procedure is of incalculable value and should be carried out more frequently in patients presenting fevers of uncertain origin.

Since Flexner's work in the preparation of the specific serum of the epidemic type of meningitis very little progress or change has been made in the United States until Gordon of the British Medical Service in the early days of the war noted that in the treatment of the disease, in many epidemics the serum seemed to be of little value, even when used properly and early. This prompted the more careful study of the organism producing the disease and the discovery that various epidemics were produced by various types of the same organism. These were grouped as the pneumococcus into types I, II, III, IV. After this discovery the line of treatment carried out in the British and French hospitals was as follows:

1. Puncture early and give polyvalent serum and send a sample of the cerebro spinal fluid aseptically obtained to a laboratory for cultivation and type determination. Within twenty-four hours this latter procedure can be carried out and the specific type serum given; the polyvalent serum holding the condition until the specific type serum is obtained. It was also determined that in the treatment of this disease the serum should be administered intravenously as well as intraspinally. When on doing a lumbar puncture and a pyogenic or cloudy fluid is obtained the serum should be given without waiting for a laboratory report as one has all to gain and nothing or very little to lose, as it is a common observation that all other types of pyogenic meningitis are usually fatal. I cannot emphasize too strongly the importance of the early and frequent use of the lumbar puncture needle in this condition. The fluid each time is examined by placing a drop on the counting chamber of a regular blood

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

counting outfit, and by examination with the high power dry objective one can without staining quickly determine the type of cells and the infecting organism. Many pus cells with few or many cocci in pairs typically grouped are usually the best findings for the epidemic type of meningitis. In the streptococcic, pneumococcic, staphyloccic, typhoid and influenza infections the organisms can be easily seen and the type determined. Cultural and staining procedures to confirm our early diagnosis should be carried out later when there is no emergency. The cerebrospinal fluids from the non-infectious and less acute conditions of the cerebro-spinal axis give us much more difficulty in differentiation, than do those of the pyogenic type.

Of this class are tuberculous meningitis which is best examined by employing a larger amount of fluid 40 to 60 cc. centrifuging in a high power machine, collecting the sediment and drying in the air on a microscopic slide, as the material is less liable to wash from the slide by this method. The usual methods for staining are used. If the centrifuge method is not used, one can stand the tube of fluid in an incubator or a warm room. Ten to twelve hours later the leukocytes and the organisms are collected in a pellicle or on the sides of the tube and can easily be collected, spread on a slide, and stained as in the previous method. Tuberculous meningitis can usually be definitely diagnosed as the organism can generally be found by this procedure. The guinea pig injection can later be carried out but this is not necessary for the diagnosis in most cases.

Lately in our cases of epidemic encephalitis and polio-myelitis the lumbar puncture has been used extensively both as a diagnostic and as a therapeutic measure. There has been found in this disease at some stage an increase of cellular elements also increase in globulin. By the frequent punctures and drainage of a large amount of fluid in these cases much good has been observed. Here the mistake is made of doing too few punctures and not draining off a sufficient amount of fluid.

In many cases it is only by lumbar puncture and a careful study of the fluid that these conditions can be differentiated from syphilis and tuberculous meningitis, the organism being found in tuberculous meningitis and the serological test being used for the determination of syphilis.

An increase of mononuclear cells is quite a constant finding in tuberculous meningitis, encephalitis, anterio-polio myelitis and syphilis. All give an increased globulin.

The cell count should be made on a Türck counting chamber or on the Fuchs Rosenthal. The advantage of these being that in the Turck you count 9/10th cu.mm. and in the Fuchs Rosenthal method you examine 3 1/5 cu.mm. of fluid. By these methods, we get a more accurate count. No cell should be called a white cell until examined with the high power dry objective, if this rule is carried out more embarrassing mistakes can be avoided.

Fuchs & Rosenthal found 0-2 cells in normal fluid, Rehm found 1-5 and even 6-9, Gemerich found 8, Levinson reports 6 cells as being suspicious and any cell count of above 10 per cu.mm. as being indicative of some pathologic lesion of the central nervous system.

In every case of syphilis of the central nervous system where the meninges are involved there are at one time or another the characteristic changes produced in inflammation, namely: cells increased, globulin increased and positive complement fixation test, when varying amounts of fluid are tested. No specimen should be called negative to the Wassermann test unless as high as 1 cc. is used for a test with carefully known antigens. The cholesterin antigen has worked best in these cases. Those cases examined in the late stages of the disease or when under active treatment usually show a low cell count but when the Wassermann test is performed by using varying amounts of fluid up to 1 cc. there is usually fixation of compliment in the larger amounts.

It is probably for infections of syphilis of the cerebro-spinal system that we use the spinal puncture most frequently for diagnosis and treatment. Here the findings are most valuable when correlated with the history and physical findings. In a suspected case of cerebro-spinal syphilis in a young person if we find no changes in the spinal fluid and serological examination of blood we can be quite certain that the signs and symptoms are not due to syphilis. In an older person the story is different as here we approach the end of the road where the course of the disease has been run and there is no reaction of the body tissue to the infection. As a standard of cure and therapeutic effect the lumbar puncture is most valuable. Lloyd Thompson of Hot Springs gives his standard of cure of the disease: two years without treatment with two punctures at yearly intervals showing no pathological findings.

Other conditions where the lumbar puncture is valuable are shell shock, alcoholic delirium, intracranial hemorrhage, uremic convulsions, hydrocephalus due to various causes, tetanus, and the various types of meningismus. When careful examinations are made of the fluids obtained the meningismus diagnoses are frequently changed to meningitis. The writer has seen many cases sent into hospitals diagnosed meningismus, neurasthenia and alcoholic delirium which after the lumbar puncture and careful study of the fluid are changed to cerebro-spinal syphilis or epidemic and other forms of meningitis. Since the work of Swift and Ellis on the intra-spinal treatment of syphilis, there have been many reports on this method of treatment or on slight modifications of it. On well studied and properly selected cases, some benefit can be derived by these methods but there have been many very unpleasant results obtained so that many of our best specialists in the treatment of the disease have discontinued this procedure.

Dercum of Philadelphia has been the greatest advocate of only spinal drainage and by forcing treatment with the patient in bed, all the fluid that can be drained is removed from the canal at frequent intervals. With this treatment there is very quickly a change from a high cell count, positive globulin, and serological test to negative findings with marked improvement of the condition of the patient. To me this is the safest method of treatment. It seems to be quite unreasonable to consider treating a deep seated disease of the brain and cord by immersing them in a dilute spirochaeticide.

In performing lumbar puncture, the dangers should always be considered. These are most common in cases of high intraventricular pressure produced by brain tumors. In these cases the manometer should be used and the pressure reduced gradually. In all suspicious cases, an opthalmoscopic examination is indicated. The patient should be placed in a reclining position on the right side and should remain in this position several hours after the puncture. It is perfectly safe to do some punctures in the office but this practice should not be followed unless the patient has been carefully studied and an opthalmoscopic examination made. An anaesthetic first cocainizing the skin and then the deeper structures should be used. After doing many punctures under a general anaesthetic and with no anaesthetic I have come to believe that in every conscious case, the local anaesthetic should be used. When the patient has no pain it is unnecessary to use force to keep him quiet and the puncture can be done much more satisfactorily. The median line route has been found both in children and adults, the best line of attack. I am very much opposed to the promiscuous puncture of the spinal canal but when indicated it is a very valuable asset in diagnosing these obscure conditions.

The lumbar puncture chairs described recently in Journals are not favorably considered by me. It may be necessary in some cases to put the patient in an upright position but if this practice is followed generally there will no doubt be many unpleasant results although the fluid can be obtained more easily by this operation.

The Intra-Abdominal Injection of Oxygen As An Aid in Roentgen Diagnosis.*

C. H. Ballard, M. D., Omaha.

The injection of oxygen into the peritoneal cavity is practically without danger to the patient, aids in clarifying diagnosis, and should come into general diagnostic use. However new methods as a rule receive a great deal of adverse criticism until they have become stabilized.

Dr. Whitman of New York after having a pneumoperitoneum produced on himself criticises the method in the A. M. A. Journal of April 10. From reading his article it is at once apparent that he has had little previous experience with the method. If so he would not have attempted making plates in the erect position, much less walking several blocks to his home with his abdomen distended. No doubt he experienced all the pain and inconvenience he described but the greater part of his discomfort was due to improper technique and might have been avoided.

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

The procedure of distending the abdomen with air or oxygen is by no means a new one. The early workers along this line were Jacobaeus, Weber, Rautenberg and Goetze, while Kelling is given the credit of first employing this method in 1902. Wm. H. Stewart of New York was the first American to use this technique, having had a large series of cases with no ill results so far reported. Dr. Orndoff next took up the work and has had a series of nearly three hundred cases.

The apparatus needed for the work is very simple being composed of a small tank of oxygen with a "goose neck" connection, a one quart bottle containing about ten ounces of sterile water. This bottle is fitted with a rubber cork through which pass two glass tubes. One of these should be long and extend about an inch below the surface of the water; the other is short passing only a little more than through the cork, the latter acting as an outlet. The rate of the flow is determined by the frequency of the bubbles produced by the oxygen passing through the water and serves as an efficient guide. It can even be regulated in the dark as one can readily hear the bubbling and soon learns to interpret the rate of the flow in this manner. The needle is the ordinary spinal puncture variety of small caliber.

The technique consists in placing the patient upon a narrow table in front of the fluoroscope. Next choose a site about an inch to an inch and a half on either side of the umbilicus and two inches below it. One should be careful to avoid operative scars and tumor masses choosing a place that is pliable and non-resistant to deep pressure. The skin is washed with alcohol, swabbed with iodine, then lysol is applied after which pressure is made with a wooden spatula over the site chosen. The lysol has anesthetic properties and pressure produces a pressure anesthesia. The bottle, tubing, and needle are sterilized and the bottle filled one third full of sterile water. The needle is passed through the skin obliquely and then perpendicularly through the fascia, muscle and peritoneum. The peritoneum is rather resistant and some pain is generally experienced as the needle passes through it. After the needle is inserted the rubber tube is connected with it and the oxygen allowed to flow. The room is now darkened and the screen examination made to see if the needle is properly introduced and to note the abdominal distension. When the anterior abdominal wall is elevated two and a half to four inches above the underlying viscera satisfactory plates can as a rule be obtained. The needle is withdrawn and a little iodine applied to the puncture wound. If one-eighth to one-fourth grain of morphine is given twenty minutes before beginning work the patient is less nervous and more easily handled. The patient is now screened from all the different angles from which any information can be gained. Next plates are taken in the antero posterior, Trendelenberg and other positions.

The size of plates best suited to this work are 14x17 unless a small cone is used to center over a certain specified area to gain all the detail possible.

The liver, spleen, kidneys, and in some cases even the gall bladder, uterus, and ovaries are shown with wonderful detail. The bladder may be injected with air or oxygen and the contour and thickness of its walls observed. The colon may be distended with air and tumor masses delineated. It is probable that gall stones with a very small percentage of calcium salts may be radiographed in this manner. The size, contour, and movability of the liver can easily be made out. Perihepatitis, gumma, and carcinoma may at times be diagnosed; also new growths of the spleen and other organs. Adhesions extending from the viscera to the anterior abdominal wall are shown with unusual clearness. Every operative scar I have examined showed adhesions extending from its vicinity usually to the intestines.

Complications that may occur during the production of the pneumoperitoneum are puncture of the bowel, possible puncture of the abdominal aorta or of a smaller blood vessel, subcutaneous emphysema and over distension. Puncture of the bowel is not a serious accident, as several cases have been reported and no ill effects resulted. Subcutaneous emphysema produces some discomfort to the patient for a short time but the oxygen is absorbed in a few hours. One patient in my series complained soon after the oxygen was injected into the peritoneal cavity of a sense of suffocation and uneasiness. Swelling on both sides of his neck was soon noted and subcutaneous crepitus in this region was easily made out. The oxygen was absorbed in a few hours and produced no ill effects. All of these complications may be avoided by proper technique.

Patients should not be allowed to stand after the abdomen has been distended as this position produces too much pressure on the diaphram and increases the pain in the shoulders the right one especially being complained of. The work should preferably be done in a hospital. If done at the office the patient should be sent to his home or to a hospital in an ambulance. The oxygen will be absorbed in about seventy-two hours after which time the patient may be allowed to go about as usual. If the oxygen is withdrawn and the patient allowed to rest a few hours the upright position may then be resumed without difficulty but rest for twenty-four hours should be insisted upon. It is highly probable that a gas for this purpose will be found that will absorb in two or three hours. This would be ideal as one would have plenty of time for the examination and the patient would be practically normal in three hours except for a slight soreness about the puncture wound. Carbon dioxide could possibly be used or a mixture of this gas and oxygen.

Pneumoperitoneum is not used to displace other Roentgen methods but to supplement them. The field for its use will likely be limited as it should be used in selected cases only and not indiscriminately. It is the best method to date for demonstrating adhesions of the bowels or viscera to the peritoneum and should be of great help in clearing up many obscure intra-abdominal lesions.

52nd Annual Convention of the Nebraska State Medical Association.

FIRST SESSION OF HOUSE OF DELEGATES.

Monday, May 24th, 1920.

The first session of the House of Delegates met in the Fontenelle Hotel, Monday evening, and was called to order by president Dr. H. Winnett Orr at 7:30.

The minutes for 1919 having been adopted at the last session, and published in the Journal, a motion that they be not read now, was duly seconded and carried.

Roll call of delegates by the secretary showed thirty-eight members present. That being a quorum, the president declared the House of Delegates convened.

Election of President Pro Tem.

Dr. E. W. Rowe nominated Dr. B. F. Bailey of Lincoln.

Dr. A. P. Overgaard moved that the nominations be closed, and the secretary instructed to cast the vote of the House for Dr. Bailey as president pro tem.

The motion was seconded and carried.

Reports.

The chairman, Dr. Orr, then called for the report of the secretary-treasurer.

Dr. A. S. von Mansfelde then made the following motion: "If it is the wish of this House these matters be read, I make the motion the House say so."

The motion duly made, was seconded, came to a vote and lost.

Dr. Overgaard, secretary of the Council, when called to report stated he had nothing to read that had not been published.

The report of the Committee on Scientific Work was read by Secretary Aikin. The president stated this report would be submitted to the Council without further action.

The report of the Committee on Public Policy and Legislation was given verbally by Dr. B. F. Bailey of Lincoln, who moved that if it meet with the approval of the House, the records in the hands of the secretary would be considered the report of the meetings of this committee.

The motion was seconded and carried.

The report of the Committee on Journal and Publication was read by the chairman Dr. F. A. Long.

The chairman stated this report would go to the Board of Councilors for action.

The Committee on Care and Prevention of Contagious Disease, Dr. I. H. Dillon chairman, was read by the secretary, and automatically referred to the Council.

The chairman then declared a recess of five minutes during which time registrations were made, and members of the Nominating Committee from the twelve Councilor districts selected.

The report of the Committee on Medico-Legal Defense was given by the chairman, Dr. A. S. von Mansfelde, who made the following supplementary remarks: "This report has been introduced and printed, but I want to say since it was written there were three cases disposed of. One was thrown out of Court for want of proper testimony. One was dismissed by the plaintiff because he got cold feet, and the third went to the Supreme Court and was decided in favor of the Doctor." As to finances, the secretary-treasurer has furnished the chairman with $25.00 and $50.00. He spent the $25.00 and has the $50.00 at the disposal of the Society.

The report of the Committee on Arrangements was given by Dr. L. B. Bushman.

Special Committees.

The report of the Committee on Medical Education was presented by Dr. A. D. Dunn who stated that the report was published in the Nebraska State Medical Journal, but that he would like to reiterate the Committee's thanks and deep sense of obligation to the various members of the State Medical Association who acted as sub-committees in the various more or less remote districts of the state.

The secretary stated that the report of the Committee on Cancer was to be given by Dr. D. T. Quigley, who was not present.

The report of the Campaign Committee, Dr. Hohlen chairman, was read by the secretary, and referred to the Board of Councilors for action.

Dr. Bailey moved that the report of the Campaign Committee go to the Council with the request that it be considered only in executive session. The motion was seconded and carried.

Memorials and Communications.

A communication was read by Secretary Aikin from Dr. Frederick R. Green. This letter was referred to the Board of Councilors.

Dr. Rowe presented the following resolution, and moved its adoption:

"The committee feel that the Constitutional Convention in retaining in its executive department the present Department of Public Welfare with the subdepartments of Health and Medical Licensure, and removing the present Constitutional limit of departments that may be created, has given to the medical profession and the public of the State a part of what they desire and the possibility of having their highest ideals realized by the action of a future Legislature."

Dr. Bailey spoke briefly in favor of the resolution. On motion duly made and seconded it was adopted.

Dr. A. P. Overgaard, secretary of the Council, then read his report on Memorials since our last annual session, moved its adoption and that it be spread on our minutes, and a memorial page printed in the Journal. It was adopted by a rising vote.

Dr. Overgaard then offered certain amendments to the By-Laws which were laid over till another meeting.

The names were then submitted from the several Councilor districts as members of the Nominating Committee:

District No. 1—A. D. Dunn.
District No. 2—E. S. Wenger.
District No. 3—C. P. Fordyce.
District No. 4—A. E. Cook.
District No. 5—S. A. Preston.
District No. 6—R. G. Rich.
District No. 7—H. E. Potter.
District No. 8—
District No. 9—R. D. Bryson.
District No. 10—N. T. Johnston.
District No. 11—
District No. 12—A. J. Stewart.

Dr. Bailey moved that the nominees named be elected. The motion was seconded and carried.

Dr. M. A. Quincy wished permission to bring a personal matter before the House of Delegates in regard to one of their members. The chairman suggested that she present the matter in writing Tuesday morning.

The House then adjourned.

H. W. Orr, President.
Joseph M. Aikin, Sec.-Treas.

SECOND SESSION OF THE HOUSE OF DELEGATES.

Tuesday, May 25th, 1920.

The second session of the House of Delegates met in the Fontenelle Hotel, Tuesday morning, and was called to order by president, Dr. H. W. Orr at 8:00 o'clock.

Thirty-three members responded to roll call.

The minutes of the previous meeting were read by Secretary Aikin, and with one correction, adopted.

The report of the meeting of the Board of Councilors was read by secretary, Dr. A. P. Overgaard.

Motion made by Dr. Tornholm that the report of the Committee on Care and Prevention of Contagious Diseases be adopted and published in the Journal. Motion seconded by Dr. von Mansfelde and carried.

Upon motion, duly seconded and carried, the proceedings of the Board of Councilors as a whole were adopted.

Under unfinished business, Dr. B. F. Bailey presented the following motion: I move you, sir, that inasmuch as the study of State Medicine was referred to the Public Welfare Committee too late for anything but a brief study, and inasmuch as it is a subject of vast importance, that it be referred again to that Committee for study.

Seconded by Dr. Long and carried.

Under new business the following resolution was offered by Dr. M. A. Quincy: To the House of Delegates of the Nebraska State Medical Association convened in Omaha, Neb., May 24-26, 1920. In the controversy between the Physicians Casualty Association and myself regarding the accident I sustained August 4, 1915, Dr. W. F. Milroy, a member of the Board of Trustees, stated that I told him at the Hastings meeting May, 1915, I had diabetes. I told him December 21, 1915, at Ashland. When I knew of his statement, with a friend I came to Omaha and saw Dr. Milroy in his office to correct his dates and places. Dr. Milroy said, "I did not hear you say so, but my wife is quite sure you told her." I made many appeals always with the thought that I did not make such statement when the trouble did not exist until after the injury. Dr. Milroy finally conceded there had been a mistake made and at the next meeting of the P. C. A. he would make the corrections. On the advice of a physician I had a conference with Messrs. Hart and Young of the Insurance Department of Nebraska, August 1919, which resulted in the P. C. A. and myself being requested to file bills of particulars with the Department of Insurance. Among papers filed by the P. C. A. was a sworn statement of Dr. Milroy that I had told Mrs. Milroy and himself at the Hastings meeting, May 1915, I had diabetes, but that I was bound to overcome it, etc., etc. After consideration the Insurance Department wrote me that because of the sworn statement of Dr. Milroy my only recourse was litigation. Before this statement was produced the Insurance Department had been confident that I had a walk away case against the P. C. A. Did Dr. Milroy make the promised correction? If he did, what of the P. C. A. in whom 60,000 physicians trust?

The president stated that the Constitution provides that such matters shall be referred to the Council.

Dr. von Mansfelde made a motion that Dr. Milroy had been guilty of unethical conduct in making such a statement. Seconded by Dr. Quincy, but lost.

Substitute motion made that this charge be referred to the Board of Councilors for their action. Motion seconded and carried.

Dr. Orr then introduced Dr. Benjamin F. Bailey, president pro tem.

After some announcements by the President and Dr. A. D. Dunn, the meeting was declared adjourned.

H. W. Orr, President.
Joseph M. Aikin, Sec.-Treas.

THIRD SESSION OF THE HOUSE OF DELEGATES

Wednesday, May 26, 1920.

The third session of the House of Delegates met in the Fontenelle Hotel, Wednesday morning, May 26, 1920. The meeting was called to order by president pro tem, B. F. Bailey at 8:00 o'clock.

Forty-three members responded to roll call.

Secretary Aikin read the minutes of the last meeting, which, with no corrections stood approved.

The report of the Nominating Committee was then called for. Secretary of the Nominating Committee, N. T. Johnston, gave his report as follows:

For President-elect—M. S. Moore, Gothenburg; Lucien Stark, Hartington; B. B. Davis, Omaha.

Vice-Presidents—E. A. Creighton, Red Cloud; W. L. Curtis, Lincoln.

Councilors for three years—9th District, R. D. Bryson, Callaway; 10th District, N. T. Johnston, Upland; 11th District, H. E. Mantor, Sidney; 12th District, A. J. Stewart, Mitchell.

Delegate to American Medical Association for two years—Joseph M. Aikin, Omaha; Alternate—W. O. Bridges, Omaha.

Delegate to Council on Medical Education of the A. M. A.—A. D. Dunn, Omaha.

Member of Committee on Journal and Publication for three years—B. F. Bailey, Lincoln.

Member of Medico-Legal Defense Committee for two years—A. S. von Mansfelde, Ashland.

A request from B. B. Davis that his name be withdrawn, was presented by Dr. H. Gifford, and accepted by the House.

It was moved and seconded that the report of the Nominating Committee be accepted. Motion carried. There being no nominations from the floor, the chair declared the nominations closed, named J. M. Banister, E. W. Rowe and F. A. Long, tellers, and ordered the House to proceed to ballot.

The ballot showed a total of 39 votes cast. Of these M. S. Moore having received the majority was declared president-elect.

Dr. Fouts moved that the Secretary be instructed to cast the unanimous vote of the House electing E. A. Creighton and W. L. Curtis vice-presidents. Motion seconded and carried. The vote was cast as ordered.

Motion made, seconded and carried that the Secretary be instructed to cast the unanimous vote of the House seriatim electing the following Councilors:

9th District, R. D. Bryson; 10th District, N. T. Johnston; 11th District, H. E. Mantor; 12th District, A. J. Stewart.

The votes were cast as ordered.

It was moved, seconded and carried that the President cast the unanimous vote of the House electing Joseph M. Aikin delegate to the American Medical Association, and W. O. Bridges alternate for two years. The votes were cast as ordered.

It was moved, seconded and carried that the Secretary cast the unanimous vote of the House electing the following:

Delegate to the Council on Medical Education of the A. M. A. for one year—A. D. Dunn.

Member of the Committe on Journal and Publication for three years—B. F. Bailey.

Member of the Medico-Legal Defense Committee for two years—A. S. von Mansfelde.

The votes were cast as ordered

Under unfinished business Secretary Overgaard read the report of the meeting of the Board of Councilors. It was moved and seconded that it be accepted. Motion carried.

Motion made by Dr. Long, seconded by Dr. von Mansfelde that the report of the Council be acted on section by section seriatim. Motion carried.

Secretary Overgaard presented the following amendment to Chapter IV, Section 4 of the By-Laws: The necessary railroad fare shall be paid by the State Association.

Dr. Dodge moved and Dr. Milroy seconded that it be adopted. Motion carried.

A motion that we reconsider was seconded and carried. After some discussion on the amendment proposed, Dr. Dodge again moved that the amendment as originally read be re-adopted. Dr. Milroy supported the motion, which then carried.

To amend Chapter VII, last paragraph of Section 2 to read: This shall be construed to include his expenses in attending the annual and special meetings of the Council, but not the annual meeting of the Association.

Motion made by Dr. Hildreth, seconded by Dr. Lord that it be adopted. Motion carried.

To amend Chapter XII, Section 1 as follows: An assessment of five dollars per capita on the membership of the component societies is hereby made the annual due of this Association. The secretary of each County Society shall forward its assessment, together with its roster of all officers and members, list of delegates and list of non-official physicians of the county, to the Secretary of this Association on or before January 31st of the proximate year. If dues are not received by the State Secretary-Treasurer by this time, subscription to the Journal expires.

After extended discussion the motion was made and seconded that it be adopted. Motion carried.

To amend Chapter XII, Section 3 by adding this sentence: Emergency expenditures may be authorized by the Council.

Dr. Dodge moved and Dr. Shields seconded that it be adopted. Motion carried.

To amend Chapter XII, Section 4 to read: The Journal shall be sent to all new and reinstated members commencing with the issue of the month in which payment of dues is received in the office of the State Secretary-Treasurer.

Motion made by Dr. Fouts and seconded by Dr. Evans that it be adopted. Motion carried.

To amend Chapter XV, Section 13 to read: The secretary of the society shall send a list of such delegates to the secretary of the Association as provided for in Chapter XII, Section 1 of these By-Laws.

Dr. Shields moved that it be adopted. Motion seconded by Dr. Dodge and carried.

To amend Chapter XV, Section 14 to read: He shall furnish an official report containing such information upon blanks supplied him for this purpose, to the Secretary of the Association and Councilor of his District on or before January 31st of the proximate year, remitting to the State Secretary-

Treasurer at the same time the current dues and dues collected from members in arrears as provided for in Chapter V of Constitution and By-Laws for County Societies.

Dr. Lord moved and Dr. Campbell seconded that it be adopted. After some discussion, the motion carried.

Motion was made by Dr. Tornholm that the House adopt the resolution recommended by the Board of Councilors, that a committee of three members be appointed to attend the next meeting of the Nebraska State Teachers Association, to secure the appointment of a committee from said State Teachers Association, to cooperate with the medical profession in promoting better health conditions in our public schools.

Motion seconded and carried.

Dr. Dodge moved and Dr. Shields seconded that the report from the Board of Councilors be adopted as a whole. Motion carried.

Dr. Hildreth moved and Dr. Banister seconded that the general session program be planned for next year. Motion carried.

Dr. von Mansfelde made a motion that the opening exercises of the next convention be held on the afternoon of the second day, instead of in the morning session. Motion seconded and carried.

Dr. Shields moved that the Committee on Scientific Work be instructed to make the program so it does not conflict with other important sections. Motion lost.

Dr. E. S. Wenger extended an invitation to the Association to hold the 1921 annual meeting in Lincoln.

Motion made and seconded that the invitation of the Lancaster County Medical Society be accepted. Motion carried.

Dr. H. M. McClanahan made the following motion: I move you that congratulations be extended to Dr. A. R. Mitchell of Lincoln for his election as president of the Board of Trustees of the American Medical Association.

Motion seconded and carried.

Dr. Overgaard moved that the Secretary-Treasurer be instructed to honor the bills of the local Committee on Arrangements for expenses incurred during the State meeting and draw checks for same. Motion seconded and carried.

Dr. Orr presented the following resolution: This Association places itself on record as favoring the establishment in Nebraska of a Psycopathic Hospital.

Motion made and seconded that it be adopted. Motion carried.

Dr. von Mansfelde made a motion that the railroad expenses of the Delegate to the Council on Medical Education of the A. M. A. for 1921 be paid by the State Association. Seconded by Dr. Dodge and carried.

Motion made by Dr. Dodge that the minutes of the House be adopted as a whole when signed by the president and the secretary. Motion seconded and carried.

A vote of thanks was extended to the Omaha-Douglas County Medical Society and the local Committee on Arrangements for the splendid entertainment given the Association at this annual meeting. Motion seconded and carried.

A motion was made and seconded that a special committee be appointed for notifying the press of the Association meetings and proceedings.

A substitute motion was made by Dr. Rowe that the local Committee on Arrangements at the next annual meeting have the responsibility of preparing the proceedings of the Association to be given to the press. Substitute motion seconded by Dr. Fouts. Substitute motion carried.

On motion the House adjourned sine die.

Benj. F. Bailey, President pro tem.
Joseph M. Aikin, Sec.-Treas.

FIRST MEETING OF BOARD OF COUNCILORS

Monday Evening. May 24, 1920.

The Board of Councilors met in the Fontenelle Hotel, Monday evening, May 24th, immediately following the adjournment of the House of Delegates. The following members were present: Drs. H. E. Potter, Frank Tornholm, M. S. Moore, R. W. Fouts, A. J. Stewart, Morris Nielsen, H. J. Lehnhoff, A. E. Cook, W. D. Shields and A. P. Overgaard.

Upon motion, duly seconded and carried, the reading of the minutes was dispensed with.

Dr. Fouts moved the resolution of Dr. Rowe be accepted and referred to the House of Delegates for adoption.

The motion was seconded by Dr. Nielsen and carried.

Dr. Fouts moved a committee of two be appointed to draft a report on amendments to the Constitution, this committee to report Tuesday.

This motion was seconded and carried.

The Chairman appointed Drs. Fouts and Stewart to act on this committee.

Dr. Moore moved the letter from Dr. Hohlen be received and placed on file.

The motion was seconded and carried.

Dr. Moore moved the report of the Committee on Care and Prevention of Contagious Diseases be accepted and referred to the House of Delegates with recommendation that it be adopted.

The motion was seconded and carried.

Dr. Fouts moved that the letter from Dr. Frederick Green be received and placed on file, and a committee appointed to draft an amendment creating a sub-committee on health problems and education.

The motion was seconded by Dr. Moore and carried.

The president appointed Drs. Fouts and Stewart to serve on this committee.

The meeting then adjourned.

H. J. Lehnhoff, Pres. of the Council.
A. P. Overgaard, Secretary.

SECOND SESSION OF BOARD OF COUNCILORS

Tuesday, May 25, 1920.

The second session of the Board of Councilors was held in the Fontenelle Hotel, Tuesday morning at 9:00 o'clock.

The meeting was called to order by the president, Dr. Lehnhoff. The following members were present: Drs. M. S. Moore, A. E. Cook, R. W. Fouts, H. E. Potter, A. J. Stewart, F. Tornholm, H. J. Lehnhoff, M. Nielsen, A. P. Overgaard and W. D. Shields.

As minutes of the previous meeting had been read at the meeting of the House of Delegates, same was dispensed with.

The report of the committee for drafting proposed amendments to the Constitution and By-Laws was presented by Dr. Fouts as follows:

To amend Chapter IV, Section 4 to read as follows: "It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body, in such a manner that not more than one-half of the delegates shall be elected in any one year. The necessary railroad fare shall be paid by the State Association."

Motion made by Dr. Fouts, seconded by Dr. Nielsen that it be adopted. Motion carried.

Chapter VII, last paragraph of Section 2: "The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates upon a properly itemized statement. This shall be construed to include his expenses in attending the annual and special meetings of the Council, but not the annual meeting of the Association."

Motion made by Dr. Potter and seconded by Dr. Moore that it be adopted. Motion carried.

Chapter XII, Section 1 to read as follows: "An assessment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The secretary of each County Society shall forward its assessment, together with its roster of all officers and members, list of delegates, and list of non-affiliated physicians of the county, to the Secretary of this Association on or before January 31st of the proximate year. If dues are not received by the State Secretary-Treasurer by this time, subscription to the Journal expires."

Motion made by Dr. Moore that it be adopted, seconded by Dr. Tornholm and carried.

Chapter XII, Section 3: "All motions or resolutions appropriating money for the annual budget shall specify a definite amount or so much thereof as may be necessary for the purpose indicated and must be approved by the Council and House of Delegates. Emergency expenditures may be authorized by the Council."

Dr. Tornholm moved and Dr. Nielsen seconded that it be adopted. Motion carried.

Chapter XII, Section 4: "The calendar year is the fiscal year of the Association. The dues whenever paid are for the year covered by the report of the county secretary. The Journal shall be sent to all new and reinstated members commencing with the issue of the month in which payment of dues is received in the office of the State Secretary-Treasurer."

Motion made by Dr. Potter that it be adopted, seconded by Dr. Moore and carried.

Chapter XV, Section 13: "At the last regular meeting in the fiscal year, preceding the next annual meeting of the Association, each county society shall elect a delegate, or delegates, to represent it in the House of Delegates of this Association in the proportions of one delegate to each fifty members or fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of the Association as provided for in Chapter XII, Section 1 of these By-Laws."

Dr. Nielsen moved and Dr. Cook seconded that it be adopted. Motion carried.

Chapter XV, Section 14: "The secretary of each county society shall keep a roster of its members and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date and number of license to practice in this state, and such other information as may be deemed necessary. He shall furnish an official report containing such information upon blanks supplied him for this purpose to the Secretary of this Association and Councilor of his district on or before January 31st of the proximate year, remitting to the State Secretary-Treasurer at the same time the current dues and dues collected from members in arrears. In keeping such roster the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year." After extended discussion, Dr. Fouts suggested that the amendment be made to read: "Remitting to the State Secretary-Treasurer at the same time the current dues and dues collected from members in arrears as provided for in Chapter V of Constitution and By-Laws for County Societies."

Dr. Nielsen moved its adoption as corrected. Motion seconded and carried.

Dr. Fouts presented the following resolution: "In compliance with the request of Dr. Frederick R. Green, under date of May 21, 1920, the Council recommends that the House of Delegates authorize the appointment of a Committee of three members to attend the next meeting of the Nebraska State Teacher's Association to secure the appointment of a Committee from said State Teacher's Association to cooperate with the medical profession in promoting better health conditions in our public schools."

Dr. Tornholm moved and Dr. Moore seconded that it be recommended to the House of Delegates for adoption. Motion carried.

Dr. Fouts moved that the president appoint a Committee of one to investigate the matter of the charges of Dr. Quincy and report at the next annual meeting of the Council. Motion seconded and carried.

The president appointed Dr. Overgaard to serve on this committee.

It was moved by Dr. Nielsen that the budget for 1921 be made up as follows and that it be submitted to the House of Delegates with the recommendation that it be adopted:

State Medical Journal, per member	$ 1.50
Campaign Committee	500.00
Secretary-Treasurer's office	600.00
Salary of Secretary-Treasurer	400.00
Librarian's Expense	25.00
Salary of Chairman of Medico-Legal Defense Committee	300.00
Expense of Chairman of Medico-Legal Defense Committee	200.00
Official Stenographer, 1920 meeting	125.00
Expense of Councilors—January 1920 meeting	77.14

The meeting then adjourned.

H. J. Lehnhoff, Pres. of the Council.
A. P. Overgaard, Secretary.

HOUSE OF DELEGATES ROLL CALL.

"1" present; no mark, absent.

	MEETINGS		
	1	2	3
Adams			
C. R. Spicer			
Boone			
Box Butte			
L. W. Bowman			
Boyd			
J. R. Beatty			
F. C. Zimmerman			
Buffalo			
Henry Farrell		1	
Burt			
Charles Swenson			1
M. Wood			
Butler			
R. G. Rich	1	1	1
C. M. Hyland			
Cass			
N. D. Talcott	1	1	1
M. Thomas			
Cedar-Dakota-Dixon			
Thurston-Wayne			
Chase-Dundy-Hayes-Hitchcock			
Byron G. Bailey	1		
A. B. Fellers			
Cheyenne			
A. A. Larson			
D. C. Ross	1	1	
Clay			
Robt. T. Jones			
I. J. Ingram			
Cuming			
H. S. Summers			
Custer			
R. D. Bryson	1	1	1
Dawson			
E. C. Stevenson	1	1	1
Dodge			
S. A. Preston	1	1	1
F. Braucht			
Fillmore			
V. V. Smrha			
Franklin			
N. T. Johnston	1		1
W. Dugan			
Furnas			
Gage			
H. R. Brown	1	1	
Hall			
W. J. Raynor			
Hamilton			
J. M. Woodard			
Harlan			
J. N. Campbell		1	
R. H. Kerr			
Holt			
Howard			
Adolph H. Holm			
Jefferson			
R. W. Murray			
Johnson			
J. M. Curtis			
C. D. Barnes			
Kearney			
F. A. Wells	1	1	1
Knox			
S. B. Kalar			
E. V. Neuman			
Lancaster			
Benj. F. Bailey	1	1	1
R. B. Adams			
E. S. Wenger	1	1	1
K. S. J. Hohlen			
Lincoln			
Geo. B. Dent			
J. B. Redfield			
Madison			
E. L. Brush			
Merrick			
Nemaha			
B. F. Lorance			
B. A. Smith			
Nance			
Homer Davis			
Nuckolls			
Harry Nelson			
Omaha-Douglas			
W. Y. Thompson	1		1
F. E. Coulter			
L. B. Bushman	1	1	1
Henry L. Akin			
E. W. Powell			
C. H. Ballard			
A. D. Dunn	1	1	1
A. R. Knode			
P. H. Ellis			
C. R. Kennedy			1
Roy A. Dodge		1	1
E. L. Bridges			
Otoe			
M. L. Koser	1	1	
Pawnee			
W. R. Boyer			
Phelps			
J. L. Magill			
R. W. Long			
Pierce			
J. P. Jensen			1
F. G. Salter			
Platte			
Wm. S. Evans	1	1	1
A. G. Lueschen			
Polk			
J. C. Malster	1	1	1
D. J. Smith			
Red Willow			
W. D. Mackechnie			
C. L. Fahnestock			
Richardson			
C. T. Burchard			
C. P. Fordyce	1	1	1
Saline			
Porter F. Dodson			
C. P. Brenn			
Saunders			
M. A. Quincy	1	1	1
Scottsbluff			
W. P. Hodnett			
C. R. Watson			
Seward			
H. J. Wertman			
C. J. Morrow			
Thayer			
Otis R. Platt			
Washington			
James B. Anderson			
Webster			
E. A. Creighton			1
R. S. Mitchell			
York			
J. S. Bell		1	
J. N. Plumb			
Officers			
President, H. W. Orr	1	1	1
Vice President, G. H. Brash			
Vice President, Adolph Sachs			
Sec.-Treasurer, Joseph M. Aikin	1	1	1
Cor. Sec. and Lib., W. P. Wherry			
Councilors			
1st District, A. P. Overgaard	1	1	1

2nd District, H. J. Lehnhoff		1	
3rd District, R. W. Fouts	1	1	1
4th District, A. E. Cook	1	1	1
5th District, Morris Nielsen	1	1	
6th District, F. Tornholm	1	1	1
7th District, H. E. Potter	1	1	
8th District, W. J. Douglas			
9th District, M. S. Moore	1	1	1
10th District, W. D. Shields			1
11th District, H. E. Mantor	1		
12th District, A. J. Stewart	1	1	1
Ex-Presidents			
Charles Inches			1
M. L. Hildreth			1
A. S. von Mansfelde	1	1	1
H. B. Lowry			
J. E. Summers	1		
F. D. Haldeman			
Wilson O. Bridges	1	1	1
A. R. Mitchell			1
Robt. McConaughy			
H. M. McClanahan			1
Wm. B. Eby			
A. B. Anderson			
A. F. Jonas			
Jas. L. Greene	1		
F. A. Long	1	1	1
Harold Gifford			1
L. M. Shaw	1		1
P. H. Salter			
J. P. Lord	1		1
A. D. Nesbit			
I. N. Pickett			
D. C. Bryant			
J. P. Gilligan	1		
E. W. Rowe	1	1	1
W. F. Milroy			1
C. L. Mullins			
J. M. Banister			1

1920 Program Committee Report.

In compliance with your recommendation at our last annual session, your Committee on Scientific Work arranged the program for general sessions only. Our House of Delegates and Councilor session too, we arranged on the plan adopted in 1919.

If in the wisdom of this House, the "two Section" plan provided by our Constitution and By-Laws should be followed in arranging for our 1921 Convention, your instructions will be followed. We had more papers offered for this Convention, than could be read and discussed in the time allotted for scientific work. In the event of your order for "two sections", holding sessions at the same hour, two stenographers will be necessary to secure the discussions.

Respectfully submitted,
LeRoy Crummer
Frank M. Conlin
H. E. Burdick
C. R. Kennedy
Joseph M. Aikin, Chairman.

Report of the Committee on Journal and Publication.

The books and accounts of the Committee on Journal and Publication for 1919 were audited by John M. Gilchrist, Certified Public Accountant, an abstract of which follows:

Receipts

Balance on hand Jan. 1st, 1919	$1,021.28
Total collections	4,811.49
Total	$5,832.77

Disbursements

Salaries	$1,738.00	
Publication Expense	3,030.22	
Sundry small items	29.70	
		4,797.92
Balance on hand Dec. 31, 1919		1,034.85
		$5,832.77

An analysis of this statement shows that at the end of the year the balance was $13.57 greater than at the beginning.

The bank statement of April 30th, 1920, shows a balance of $2,332.74.

We are printing 1,350 copies monthly.

The expense of publication advanced 15 per cent since Jan. 1st of this year.

At the present time the expenses of the Journal and the salaries of the Managing Editor, (fifty dollars per month) and the office clerk, (ninety dollars per month) are paid out of the Journal Fund, while all other expenses of the office are paid out of the General Fund of the Association.

It must be apparent to most of you that the business management and editorial supervision of a Journal such as ours requires the greater part of the time and energies of one man and that we should be in a position to pay more than the modicum now being paid; but we have not seen our way clear to increase it lest financial embarrassment overtake us.

A continuation of the appropriation of $1.50 per capita for all members of the Association to the Journal Fund is requested by your Committee.

F. A. Long, Chairman.

Report of Committee on Care and Prevention of Contagious Diseases.

To the House of Delegates and Members of the Nebraska State Medical Association:

Gentlemen:

We your Committee on the Care and Prevention of Contagious Diseases beg to submit the following report for the year 1919:

Conforming to the laws passed during the 1919 session of the Legislature, local boards of health were organized in the various counties, cities and villages of the state during the summer and fall. The epidemiologist of the State Bureau of Health and the secretary of each county board of health was appointed collaborating epidemiologist of the United States Public Health Service late in the fall of 1919. All of these appointments have been accepted except the secretaries of the county boards of health in Custer, Garden, Madison and Nance counties. The various local boards of health of the state have been fairly active and energetic in quarantining contagious diseases and assisting in preventing their spread.

The State Bureau of Health has been rendering weekly reports to the United States Public Health Service of all the cases of contagious disease reported to it during the week. There are thirty states making such reports at this time, and a perusal of the bulletins of the United States Public Health Service shows that Nebraska is comparing favorably in this matter with any of the other states.

During the year the following contagious diseases were reported in this state, with the indicated number of deaths from each:

Disease	Number Cases Reported	Deaths
Actinomycosis	1	0
Chickenpox	879	0
Diphtheria	423	63
Encephalitis lethargica	6	10
German measles	13	0
Influenza	23,683	534
Pneumonia	—	1,706
Measles	655	3
Meningitis, epidemic cerebrospinal	26	32
Meningitis, tubercular	6	23
Mumps	442	0
Ophthalmia neonatorum	2	0
Poliomyelitis, anterior	34	3
Rabies	1	0
Scarlet fever	757	21
Septic sore throat	3	6
Small-pox	2,861	1
Trachoma	3	0
Tuberculosis, pulmonary	232	396
Tuberculosis, other form	0	63
Typhoid fever	115	45
Typhus fever	1	0
Whooping cough	505	19

The physicians of the state have shown a splendid spirit of cooperation in the control of venereal disease. They have furnished confidential reports of 5,010 cases, and measures have been instituted to keep these cases under treatment until cured. There are ten clinics for the free treatment of these diseases maintained in the state in which a total of 2,539 cases were treated during the year. Efforts are being made to find the various foci of infection and spread of these diseases and when found, to eradicate them the same as foci of other contagious and infectious diseases.

It is a sad reflection on the medical profession of this state when there are 63 deaths from diphtheria out of 423 reported cases. One or two conditions must exist: All of the cases were not reported, or if they were reported, the treatment of the cases is sadly defective. Again, when 32 death certificates are filed giving as a cause of death epidemic cerebrospinal meningitis, and but 26 cases have been reported for matters of record and quarantine, or when 23 deaths are reported from tubercular meningitis and only 6 cases had been reported prior to death, or when 6 death certificates were filed giving as cause of death septic sore throat, and but 3 cases had been reported for matters of record and quarantine; again, when 45 patients died from typhoid fever in this state out of 115 reported cases, there is undoubtedly something wrong. When the physicians report 232 cases of pulmonary tuberculosis and sign death certificates for 396 deaths giving this as cause of death, it is evidence on the face of it that they are not obeying the quarantine laws of the state.

However, during the latter part of 1919 and up to the first of May, 1920, the reporting of the various forms of contagious disease by the physicians of the state has increased very materially, so that we have reason to believe that the next annual report of this Committee will show a different state of affairs regarding the relation of reported cases and death certificates.

Respectfully submitted,
Irving S. Cutter.
I. H. Dillon.

The habit of discussing our feelings is growing. The finer reserve of our forefathers in matters as personal as health and discomfort is being swept away today by the willingness of high and low to discuss their ills, in and out of season. This delicacy—a strength accepted as an unquestioned standard of our forefathers' decorum—is being lost in the chorus of whines and complaints, swamped in the eloquence of description of selfish ills, submerged in that dissonance of sound, the "confabulated" expression of modern tales of woe. And ills beget ills, and discussion of ills suggests more ills, and with the nervous, particularly, one's ills infect another, even as measles is passed from child to child. To keep our ills to ourselves, excepting only the privileged ear of our medical or spiritual counselor, stands not only for obvious culture and a mark of refinement, but, in these days of inveterate gabble about personal sensations, indicates a will that can will.

During May the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

Dietetic Cellulose Co.: Celluflour.

Intra Products Co.: Ven-Iron Cacodylate; Ven-Iron Cacodylate with Sodium Chloride.

Not Untried Theory.

The metric system is no untried theory.

Its principle—the principle of decimal computation—has been used in the monetary system of the United States since 1786.

There are people who enjoy a grievance as a dog enjoys his bone. It is a worthless affair to begin with, but it is something to bury, dig up, and growl over on occasion.

The rate for diphtheria is 13.8, representing 11,280 deaths. As compared with 1917, when the rate was 16.5, there is a perceptible decrease.

In Memoriam

We, the officers and members of the Nebraska State Medical Association, participating in the 52nd annual session held at Omaha, Nebraska, May 24, 1920, unanimously adopt the following resolution.

WHEREAS, God in his infinite wisdom has taken from us the earthly presence of our medical associates:

E. W. Minton
C. E. Moyer
P. C. Ohaver
H. L. Akin
F. J. Farwell
I. W. Porter
G. H. Rathbun
E. E. Barr
W. M. Cowgill
Carl A. Meyer
E. R. Seasongood
W. H. Wightman
W. R. Young

RESOLVED, That we, the Nebraska State Medical Association, deeply and earnestly deplore their untimely end. Under a deep sense of loss we have sustained in their demise, we desire to give expression to our thoughts. Be it further

RESOLVED, That they were men of sterling qualities, pleasing manners and deeply mindful of the trust reposed in them. Their careers abounded in good inspiration and good example. We mourn their loss and will sadly miss their agreeable companionship and business sagacity. Their character as citizens commends their lives as the highest order of citizenship. We extend our heartfelt sympathy to their bereaved families and can only say "Trust in Him, Who doeth all things well." Be it still further

RESOLVED, That this resolution be inscribed in the minutes of our records and that the same be published in our official publication, The Nebraska State Medical Journal.

Respectfully submitted,

A. P. Overgaard,
Secretary Board of Councilors.

H. W. Orr, President.
Joseph M. Aikin, Secretary.

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Hints on Public Sanitation.

It would seem that at the present time, the laity of our country should be in an excellent receptive mental state concerning sanitary protective measures, in view of the wonderful results in this direction secured by the Medical Department of the Army during the Great War. The officers and soldiers who have returned to their homes, have practical knowledge of these results and their views can have the effect of leavening the opinions of their individual communities in this respect.

It is the obvious function of our profession to do its part in promoting the practical application of the sanitary lessons learned to the protection of the public, and it is the purpose of this brief editorial to bring this fact home to the members of the profession.

Practically speaking the infectious diseases are, as a class, preventable affections and when we consider that over 600,000 persons die every year in our country from such affections, not to mention the suffering and economic loss inflicted upon the hosts of those, who, after varying periods of illness, recover from their attacks, the enormous value of efficient means of prevention is very evident.

The fourth great pandemic of bubonic plague is now devastating the world. In our hemisphere this disease has secured a strong foothold in South America, has invaded Mexico, and has just reached our own country, having appeared at Pensacola and Galveston, so that grounds for serious uneasiness exist in the minds of our sanitary authorities.

Bubonic plague is chiefly a disease of rodents, the rat being especially susceptible and the principal agent in its propagation. The rats of a community become first infected, and the disease is spread from them to man through the instrumentality of the rat flea. When the infected rats die the fleas, which are blood feeders, leave their dead hosts to feed upon other warm blooded animals, as well as man, and in the act of feeding transmit the infection to the new hosts. Infected rats are seized with a desire to migrate from their accustomed haunts, and make use of any possible means of travel as ships, boats, and railway trains. With our free railway communications with our Southern Gulf cities a very present danger exists for our own state.

The profession should consider the possible gravity of the present situation, and, in each village, town, and city, should impress upon the members of the community the importance of efficient means of extermination of rats and mice. This matter should be taken up by boards of health universally throughout the state.

The danger to a community from waterborne diseases as typhoid fever, dysenteries, diarrhoeas, cholera, and other acute intestinal infections, should cause a careful examination to be made of the source and quality of the water supply of every community. Too often the well on the farm is in close proximity to the privy-sink, thus affording easy access to the well for the infectious micro-organisms of the disease types referred to through the instrumentality of the ground water.

The storage, or reservoir, water supply of a town, or city, can be rendered safely potable by sedimentation, precipitation of suspended matters by alum, and treatment with calcium hypochlorite. The latter treatment is easily and cheaply applied, and is an excellent bactericidal method rendering danger of infection through the water supply very remote.

The milk supply is, also, an efficient means of spreading such infections, and too often on our farms, and at the sources of our dairy outputs, the pig-pen, or manure heap, is in very intimate relationship with the well, or spring, from which the water is obtained for washing the milk cans, and hands of the milkers, not to mention the possibility of a dilution of the contents of the cans with such infected water.

The great importance of the domestic fly as the carrier of diseases of the type under consideration has been thoroughly established. This filthy insect is both a host for such infections as well as a mechanical carrier. The average fly has been found to harbor upon its body over a million micro-organisms, not to mention the hosts of pathogenic germs discharged in its feces, and scattered around our dwellings in the common "fly-specks". The members of the laity should be made to appreciate the danger from such source, and encouraged to screen their homes, to "swat" every fly, which may be able to secure an entrance, and to protect carefully all food from such defilement. In this connection special attention must be directed to all collections of filth, as privy-pits, manure piles, and garbage heaps, in order that, by their removal and sanitary treatment, such fertile breeding and feeding places for these insects may be destroyed.

The Great War has shown most conclusively the overwhelming importance of the sputum-borne diseases, in which class may be mentioned, among others, tuberculosis, tonsillitis, diphtheria, pneumonia, bronchitis, cerebro-spinal meningitis, and epidemic influenza. Isolation of the sick, and efficient ventilation for inmates of schools, dormitories, and hospital wards, as well as for the casual occupants of churches, theatres, and other public places, should be secured as vital preventive measures.

The acute exanthemata take a fearful toll of life each year. Vaccination as a preventative against small-pox, and the early recognition and isolation of cases of scarlet fever, measles, and chicken-pox, with proper quarantine restrictions, should be rigidly insisted upon.

In this connection a thorough system of school inspection cannot be too highly commended.

The mosquito-borne diseases, namely, malaria, yellow fever, dengue, and filariasis can be thoroughly prevented by efficient anti-mosquito work, as the destruction of the breeding places of the insect by drainage, the use of crude petroleum and insecticides with the personal use of the mosquito-bar when sleeping on the part of the inmates.

That such prevention is eminently practicable is proved by the work of the Medical Department of the Army in Cuba and the Isthmus of Panama.

The scope of this editorial will only permit of the mention of salient facts in connection with public sanitation, the practical application of the same being left to the intelligence of the professional reader. J. M. B.

District Medical Society.

There is a need in the medical profession of Nebraska for larger group meetings than the component county societies. Careful study has convinced the official members of the Association that district meetings made up of members of county societies will in no manner weaken the county societies nor affect the unity of the Nebraska State Medical Association. Outside of the larger county societies the physicians feel the lack of opportunities to get enough members together for real scientific and social intercourse. The makers of the constitution foresaw this need and gave to the House of Delegates the right to organize in the councilor districts such district societies as may be desired.

Our members have voiced this need time and again. Organizations have sprung up repeatedly over the State to fulfill this function but they have lacked the affiliation with a strong mother organization. Some of them have flourished for a time and then died. Some are in existence today supported by our members but having no direct affiliation with our Nebraska State Medical Association. The Association's attitude toward these organizations has always been friendly.

It is deemed wise at this time to call to the attention of the members and the councilors who represent them, that there is a widespread demand for district meetings. The definite councilor districts are so organized that they may conveniently serve the purpose of the district society. The councilor should interest a few dependable souls in his district and then get together all who will be interested and effect a temporary organization. The next House of Delegates will be glad to give official recognition so that such temporary organization may become permanent. E. W. R.

Consolidation and Cooperation.

These are the big public health problems in Nebraska today. There are a large number of agencies in this state, all doing more or less public health work, and all supported by funds derived from public sources, either by taxation, donation, or some of the various forms of contribution or subscription. Each of these agencies has in the past produced a great deal of good to the people of the state, but they have all been working independently, resulting in confusion and duplication of work. A great deal more benefit would have resulted from the time, money and energy expended had these organizations all been consolidated and working together.

Principal among these agencies are the United States Public Health Service, working in conjunction with the State Bureau of Health; the American Red Cross; the National Tuberculosis Association, and the various child hygiene committees and child welfare organizations. If all of these agencies could be brought together, working as one body, thus preventing confusion and duplication of work, greater good would result, and this can be accomplished without any one of these agencies losing its identity.

Through the consolidation and cooperation of these agencies working with the local authorities in the various communities, health centers can be organized in charge of a full time health organization in each county in the state, whose duty it will be to improve the sanitary conditions of all of the communities in their locality; control the spread of preventable diseases; supervise and carry on the work of child welfare in all of its branches; secure closer cooperation between the members of the medical profession; both with the people of the community and with the public health authorities. This will result in better and more complete records of all kinds; in an improved state of well being of the people of the community by teaching them to consult their physician for prevention of disease or remedying of abnormal conditions before the disease has been produced, rather than waiting until the harm has been done before consulting their physician, as at present.

These are not impossible conditions or too visionary to be achieved. They are being carried out in some of the other states. Let's get busy and carry them out in Nebraska.

I. H. D.

Medical Service Recognized.

The University of Rochester was recently the recipient of a large financial endowment for the construction and equipment of a 250 bed hospital, the necessary buildings for scientific laboratory work, and the clinical teaching of medicine. Mr. George Eastman, a citizen of Rochester, whose gifts for the education and betterment of mankind to many institutions in Rochester and elsewhere now gives recognition to the worth of the medical profession by placing at the disposal of the General Education Board of New York $4,000,000.00 for developing and maintaining a medical department in the Rochester University. This in addition to $1,500,000.00 previously given by him and used in establishing the Rochester Dental Dispensary, for children.

Associated with Mr. Eastman's gift is one of $5,000,000.00 from John D. Rockefeller through the General Education Board, which raises the building fund for the new School of Medicine, University of Rochester, to $9,000,000.00. This brings the whole resources of the new institution for medicine and dentistry to $10,500,000.00. The benefactions of these worthy donors to the advancement of medical education permitting the erection of suitable buildings where sick people may be properly treated, and preventive medicine studied, is gratefully acknowledged as a public recognition for service well rendered. The spirit of the donors is clearly indicated in the following paragraph copied from the address of Mr. Eastman:

"This will make Rochester a better place in which to bring up a family. This is an opportunity which can come to but very few cities in the United States. It means that the people of Rochester and the surrounding territory will have the best advice and treatment which can be found anywhere in the country. This project is for all the people, as charges for talented medical and surgical services will be nominal."

Apropos to a like spirit in the medical profession was no less clearly announced in the address by Dr. Abraham Flexner who in reviewing the benefits of large gifts to several institutions of learning said:

"It was plainly not money that made the Johns Hopkins Medical school, nor will mere money, essential though it is, today either create or sustain a great institution of learning. * * *

"In this fundamentally important matter, Providence led Johns Hopkins by the hand at every step. It is not too much to say that no great undertaking ever was more divinely blessed in the choice of agents and advisers. A wise, prudent board of trustees was selected mainly from those who with Mr. Hopkins every Sunday attended the Quaker meeting. With singular good fortune they chose as the first president of the new university Daniel C. Gilman, then head of the University of California and one of the few men in America who in that day knew the difference between college and university work, and who appreciated what the creation of a real university might mean to American higher education.

"President Gilman went to the right sources for advice in the matter of finding the faculty of the new medical school, bringing together the greatest and most successful group of medical scientists and teachers ever assembled in America; a faculty that as a whole has been surpassed in no European country. He did not draw a single blank. The men were all young, mostly in their early thirties, some of them younger. Their names were then practically unknown beyond an extremely narrow circle. Now, just a generation later, the names of Welch, Osler, Halsted, Mall, Abel and Howell, leaders and makers of this great enterprise, are known and revered not only wherever the English language is spoken, but wherever scientific medicine has gained a foothold. These men put medical education and research in America upon a university plane. * * *

"The Johns Hopkins adopted the practice of the great Continental schools of medicine in divorcing from medical and surgical practice teaching and research in the fundamental sciences. Welch, Mall, Abel and Howell—pathologist, anatropist, pharmacologist and physiologist—had never practiced medicine; Howell did not even possess an M. D. degree. The system justified itself by its fruits. The subjects have been infinitely better taught; American laboratories devoted to these sciences have equalled in productivity the great European laboratories in which our earlier leaders were trained."

Our medical profession is receiving national recognition for service rendered in the practice of rational medicine, aid in the construction of properly built hospitals, and in the altruism evidenced in the management of wisely organized agencies working for the public health. May we of this generation unselfishly maintain the humanitarian ideas taught by the founders of our profession and the many subsequent leaders who though dropped out of our ranks, and whose bodies have been laid to rest until the second call to service reveals us with them, as glorified servants who ministered wisely and faithfully to suffering humanity.

CURRENT LITERATURE.

The Journal of the Medical Society of New Jersey issue of June, 1920, published a clinical study of seventeen original cases of Raynaud's disease, with ten illustrations, by Henry P. deForest, that merits careful pedagogic study. As a preliminary to gaining and holding the attention of those to whom the clinical data was presented, Dr. deForest exhibited a portrait of Auguste Maurice Raynaud, M. D., and then gave an authentic, concise and most interesting biography of him. Raynaud was born in Paris, France, July 5, 1834, and died June 9, 1881. The unexcelled, exhaustive clinical history of that disease given by Dr. Raynaud in his thesis for the degree of medicine, linked his name with its nomenclature.

Following the biography is a historical resume of early recorded facts relative to the disease in discussion; a definition of it, with a grouping and clinical picture of three characteristic stages in its development. He then briefly reviewed the seventeen cases which came under his personal observation. The clinical description in every case was made more interesting and instructive by clearly outlined photographic pictures from life, supplemented by pencil sketches giving exact coloring to the diseased parts. He gave a complete anamnesis of each patient, which is a pedagogic factor often greatly underestimated by speakers desirous of impressing their hearers with the message presented.

Dr. deForest merits commendation by the medical profession for his persistent work in collecting data and formulating an entire syndrome of that human malady. The New Jersey Medical Society is to be congratulated on obtaining and publishing his valuable manuscript.

MERIT WINS.

From "Sir William Osler as a Man of Letters".

BY CHARLES W. BURR, M. D.

(The American Journal of the Medical Sciences, May, 1920).

"There is a justified fear that the newer methods of education which certain philosophers of the meaner sort are trying to force on the coming generation and our worship of specialism, not only in medicine, but in all kinds of work, will end in breeding men who will have but little interest in, or pleasure from, pure scholarship for its own sake. The movement is not a permanent one but will do much injury for many years. Osler was out of sympathy with any such method of improving the race; he belonged to a world that is dead or rather in eclipse. * * * His early taste was not spoilt by the worthless stuff sent out by the printing presses of today, in such huge quantities that real literature is smothered.

* * * Much that was printed was dull, stupid and soon found its proper place, but much was scholarly, and, not a little, good, strong meat for full-grown men. The paranoias, whom we have always with us, had to have a well-lined pocket-book to get his crazy panaceas for social and political evils printed. He was not welcomed in the Sunday supplement and the uplift magazines because they had not been imposed on a much suffering people. The Bible was still a living book; the subjunctive mood had not gone out of existence; sentences did not have to be reduced to the length of a clause, lest the reader should have brain-fag, and colons and semi-colons were still in common use. Punctuation was a well-known art. People either read or did not read, and if they read they read and studied things worth the reading. They did not disdain to re-read and got on friendly, or it might be very unfriendly terms with the author, but they at least knew his works.

He belonged to a generation which followed the old tradition, that the physician ought to be a scholar, first broken away from by Germany and, later, following Germany's example, by us. Today we have wandered far from tradition, and under the pernicious influence of so-called efficiency are trying the experiment of vocational training. Theoretical pedagogues of the newer school, pretending they have discovered a new psychology, teach us that to be efficient the boy must, from a very early time, learn only the things useful in his future work. The disciples of efficiency do not realize that the one thing we need is well-grown, well-rounded-out men. * * *

He realized well his peculiarly powerful personal influence on students, and, as he firmly felt the need of scholarliness in physicians, in order that they should have such a grasp on all culture that they would see nature as a whole, and see the real relations between things which to the vulgar mind seem to have nothing in common, he strove in his non-medical essays to stimulate an appetite for the study of biography and history, the keys which open the lock of philosophy. * * * He knew full well that to understand the medicine of today one must know the medicine of the past, and many of his essays deal with that subject. He was consciously or unconsciously ever fighting the pernicious German intellectual influence in medicine which has done so much harm in America. I mean the idea that advance comes from each man taking up some one little subject and studying that thoroughly. * * * There is good in a method of modern industrial life whereby a man in, say shoemaking, is taught to do some one little thing until he becomes almost as automatic as the machine itself. The good is that shoes are cheaper, more people can therefore buy them than in the old days; the evil is the shoemaker is not a man but a cog. Further, no such workman will be able to see shoes in relation to the universe and invent some better foot-covering. So in medicine the research workers by the German system rarely make great discoveries, and as men they will insofar be failures in that they will not get all that is possible out of life. One reason why modern Germany has made relatively so few great fundamental discoveries in science, why it has had so few stars of the first magnitude, while having made so many little discoveries, having so many minor stars, is this very thing, that the Germans have carried specialism so far that each man's mental life is passed in a world too small for him to see the great universe. * * *

The therapeutically credulous, the lovers of every new drug, the worshippers at the shrine of the idol medication, called him a therapeutic nihilist, and not always in language to be used by tongues polite. * * * His emphasis on the fact that the starting point of all treatment is a thorough knowledge of the natural history of disease is not pleasant reading to the gentlemen who much prefer to spin cobwebs of therapeutic method, out of a thread of dream physiology, spun with busy pens on paper at a writing desk. * * *

He holds the balance true between science and the humanities and maintains what will ever be true, that the educated man needs both, or he is not an educated man. * * *

Osler made no pretense to being a great light in literature; none of his essays will give him a living immortality; they will of necessity be put on the upper shelves in the store rooms of libraries and only be read by medical antiquarians hunting up the lives of old worthies, just as he shook the dust from many an old volume written by men one time great and resurrected only because he had a mind curious to know the steps that led to the growth of science and of medicine. But the influence his essays have had on the men of the days of his teaching will be a never-dying force for good. Just as there is an immortality of matter carried from generation to generation, so there is an immortality of thought passed on from teacher to student. Few men have chosen their hobbies so wisely as he. He helped others in getting his own greatest pleasures."

(Want of space prevents publishing the complete copy of this splendid tribute by Dr. Burr to Sir William Osler. It merits a careful reading and daily study.)

GENERAL NOTES.

The Colorado Congress of Ophthalmology and Oto-Laryngology will be held in Denver in the Metropolitan building, July 23rd and 24th, 1920.

The United States Public Health Service has appealed to the American Red Cross to begin a national campaign for volunteers to be trained as psychiatric social workers among the 50,000 World War veterans suffering from nervous and mental diseases in Public Health Service hospitals. Nearly two hundred workers will be needed before fall to care for such cases. There are today only 150 such workers in the country, and it is obviously inexpedient to take them from their present tasks.

ABOUT THE DOCTOR.

Oconto is reported to be without a physician.

Dr. D. C. Hankey called at the Journal office recently.

Dr. Gertrude Cuscaden has returned from an eastern trip.

Dr. C. S. Minnich of Curtis was a recent caller in the Journal office.

The contract for the Dr. Evans hospital at Columbus was given to an Omaha firm.

Press clippings indicate that many physicians and dentists are investing in X-ray equipment.

Dr. D. G. Golding, formerly an eye and ear surgeon of Fremont, has moved to Fresno, Calif.

Dr. W. O. Bridges left July 1st for a European trip. He will be absent two or three months.

Thirty thousand dollars has been raised at Winner, S. D., for a hospital to be known as Trinity Hospital.

Dr. John W. Bozarth, Lexington, Neb., has returned from a six week period of post graduate work.

The York Clinic Hospital opened in the Shidler building instead of the Beck home, as previously planned.

Dr. E. T. Manning and family have taken an automobile trip to the lakes in Minnesota for a month's vacation.

Dr. E. W. Fetter has leased the new Twinem Hospital at North Platte, and will conduct the same in the future.

Dr. and Mrs. Harry A. Wigton of Omaha are spending their vacation on the Pacific Coast, returning about August 1st.

The Plainview Hospital, a community institution of brick, built a few years ago, has been acquired by Dr. F. H. Nye of Plainview.

Dr. W. F. Vaughn of Lynch, Neb., purchased the hospital equipment of Dr. H. H. Murnan of Gregory, S. D., and has taken possession.

A damage suit for $25,000 has been filed against Dr. W. E. Nowers of Kenesaw. The case apparently hinges on the application of a hot water bottle.

Of passing interest to the medical profession is the fact that the Republican presidential candidate is the son of an Ohio country doctor still living.

Dr. C. H. Fenstermaker, Sargent, who eight months ago took his family in an auto with a camping outfit and toured the east and south, has just returned to his practice.

Any communication with reference to the prevention and control of venereal disease, should be addressed, Department of Public Welfare, Division of Venereal Diseases, Lincoln, Neb.

Dr. Marion Sigler of Corning, Kansas, and Miss Jennie Huntling of Lincoln were married June 18th. Both parties were graduated from the Beatrice High School and Dr. Sigler is a graduate of Creighton Medical College.

A Nebraska doctor purchased a new X-ray outfit then presented his old one to the local high school. Once upon a time the writer attempted to do a similar act of kindness (?) and he now wonders how much of a bonus the doctor had to pay the local board of education to have them take the thing off his hands!

Dr. Jeannette F. Throckmorton, College of Medicine, University of Nebraska 1910, has been invited by the Royal Institute of Public Health under the patronage of King George, Queen Mary, the Prince of Wales and Albert, King of the Belgians, to deliver her lecture, "Fashions and Public Health," before the Congress of Brussels.

Friends of Dr. Claude W. Mason will welcome his home coming in September. On August 5th he sails from Hong Kong for New York. He returns after 14 years service as a medical missionary under The American Presbyterian Mission in Siam, India and Yunnan, China, to the United States for his second vacation. His family are with him, and will remain here, that their children may have educational privileges not available in Siam or China. They will be at home with the doctor's parents, Mr. and Mrs. J. B. Mason, 22nd and Larimore Ave., Omaha.

A little band of seven Americans, who have faced the gravest danger day in and day out for six months fighting typhus in Esthonia, have had bestowed upon them the name of the Death Squad. Today only one of the original band remains on duty unscathed. Two are dead. They are Lieutenants Clifford A. Blanton, of Chattanooga, Tenn., and George W. Winfoeld, of Highland Falls, N. Y. The three who were stricken but recovered are Captain Wilbur P. Howell, of Brooklyn, N. Y., Captain A. C. Robinson, of Honolulu, and Dr. J. A. Whittaker, of West Branch, Mich. Lieutenant Willard C. Smith, of Winchester, Ill., following the disbanding of the original squad, left for America. The only member of the heroic band still at his post is Captain Archie McAllister, of Jacksonville, Fla.

AMERICAN PEDIATRIC SOCIETY.

The American Pediatric Society met at Highland Park, May 31st, June 1st and 2nd, 1920. Owing to its location near Chicago, there were a larger number of visitors than usual. The address of the president, Dr. T. S. Southworth of New York, on the "Segregation of Pneumonia", was a scholarly presentation advocating the wisdom of the segregation of cases of pneumonia in children.

There were a number of papers on the subject of bio-chemistry in its relation to pediatrics. These papers were presented by Drs. Cowie, Schloss, Fleischner and Grulee. It is fortunate there are younger men in the profession competent to do this work. Ultimately practical results will follow.

At the evening session Dr. John Howland of Baltimore gave a lantern slide lecture on rickets, illustrating the pathology of the bone in this disease, and also the extreme value of cod-liver oil.

A valuable practical paper was given by Dr. Joseph Brennemann on "The Irritated Meatus in the Circumsized Child." A number of cases were cited. The doctor's conclusion was that it is not only the mechanical irritation of the meatus, but also the ammoniacal urine that causes the lesion. The use of a simple oil dressing and alkalizing internally was advocated.

Dr. Walter Ramsey of St. Paul presented further studies on the use of inunction of mercury in syphilis, demonstrating that it is absorbed by determining the presence of mercury in the urine by analysis.

A valuable paper was given by Dr. P. C. Jeans of St. Louis on the study of the Wassermann test of the cord blood, showing the reliability of the simple placental examination as compared with the subsequent Wassermann test of the blood.

A very valuable paper by Dr. L. E. Holt of New York on "The Food Requirements of Children After the First Year" showed the basal requirements and needs for growth and for activity. The caloric needs of the child are greater during the period of most active growth, in the boys from 15 to 17 and girls from 13 to 15; indeed are greater than the caloric needs of adults. Furthermore the caloric needs of children vary greatly owing to the activity of the individual child.

One forenoon was given over to the subject of the hygiene of the child both in the pre-school age and school age. The relation of the child's nutrition to its progress in school work was pointed out. Also the value of rest to the school child.

Dr. J. P. Sedgwick of Minneapolis presented "A Study of Breast Feeding in the City of Minneapolis." A city wide campaign was made to encourage mothers to nurse their infants, with the result that the mortality of infants was reduced for that year. Competent nurses were sent to the homes to instruct mothers in the art of nursing. Special emphasis was laid upon the importance of thoroughly emptying the breast in order to keep up a regular supply of milk. This is a subject that should attract the attention of all physicians. It is certainly true that many infants are weaned without sufficient reason.

Altogether it was an instructive meeting.

SOCIETY NOTES.

The Nemaha County Medical Society met at the residence of Dr. B. F. Lorance of Auburn, Nebraska, on June 10th, with thirteen doctors present including visitors from Falls City. Dr. B. L. Shellhorn of Peru, Nebraska, read a paper on "Empyema" which was enjoyed by all present. The paper was followed by a general discussion.

1920 Graduating Class of the University of Nebraska School for Nurses.

Ottilia Lucile Czaplik, Georgia Sylvia Dye, Rita Elizabeth Eisenmenger, Mabel Sarah Fisher, Alice Graham, Edith Sexton Martin, Mary Elizabeth McHugh, Blanche Orpha Nicola, Edith Josephine Stockham.

BOOK REVIEW.

Sex Attraction, by Victor C. Vaughan, M. D., LL. D., Paper. Price 50c. Pp. 44. St. Louis: C. V. Mosby Co. 1920.

"Sex Attraction," a lecture by V. C. Vaughan, Dean of the University of Michigan School of Medicine, is an able and direct presentation of the basic facts of sex and of the need and methods of sex-education which it is vital every thinking person should know. The lecture is based on exact scientific knowledge and yet so simply put that it should be of great benefit to unscientific hearers. The author also shows the ideal teacher's knowledge of the right motives to appeal to in boys and girls. One statement only would I question: In the teaching of this subject in high schools, especially co-educational high schools, because of the emotional difficulties of adolescent years, I think that we must be very guarded. I would always have it done in regular classes, by especially selected teachers, never of the opposite sex, in a very quiet fashion; and the ideals of sex relation must be built up in other subjects, as in the study of English Literature. J. M. T.

BOOKS RECEIVED.

The Microbiology and Microanalysis of Foods. By Albert Schneider, M. D., Ph. D., Cloth. Price $3.50. Pp. 262 with 131 illustrations. Philadelphia: P. Blakiston's Son & Co. 1920.

DEATHS.

Dr. James Hyslop, aged 66, secretary of the American Society for Psychical Research, died on June 17, 1920, at Upper Montclair, N. J., of thrombosis.

Dr. Oliver P. Shoemaker, who practiced medicine for many years in Clay Center, Neb., died in California May 24th. The remains were brought to Clay Center for burial. Age 63 years.

It is to be regretted that some features of American life do not commend themselves to the foreigners, and this makes harder the process of Americanization. They may not specially object to the materialistic spirit which they find. Many of them seem to have brought that same materialistic spirit with them. But they do seem to feel that some of their customs are far superior to those of American homes. An interesting incident reveals their point of view. In a community club for foreign born an evening club for working girls was started. The attendance was poor. A house-to-house canvass brought out the answer, "We do not want our girls Americanized. All the American girls in this neighborhood stay out every night until midnight and later. We do not want our girls to go with them." So long as there are defects in the social, industrial, religious life of America, which these aliens can easily discover, the task of "selling" Americanization to them will have its difficulties. Something besides charity must begin at home. American people must open their eyes to their own short-comings and make an earnest effort to remedy them. When they have something really worth offering to these strangers they will take advantage of it."

The United Presbyterian.

In its weakening effect on the will exists the most potent argument against the cigarette. Practically all tobacco users admit a certain sensory relief, and temporary comfort and sensuous satisfaction from their indulgence. The average man smoking two or three times a day probably suffers little for his half-hour of "solid comfort," but the cigarette smoker is rarely one with the poised resistance to limit his indulgences to two or three a day. R. S. Carroll, M. D.

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Mastoidectomy in the Presence of Erysipelas.

A Report of Two Cases Observed at the U. S. A. Base Hospital, Camp Pike, Arkansas.

R. P. Stoops, M. D.

Erysipelas occurs frequently as a complication during convalescence after the simple operation for streptococcic mastoiditis. The disease also occurs all too often following the radical mastoid operation. However an active erysipelas is ordinarily considered as a distinct contraindication to operative procedure and it is believed that a report of two cases in which it was necessary to perform the mastoid operation in the presence of this infection would be of interest to the profession.

It will be noted that the wounds were treated by antiseptic methods and whether as a result of this procedure or not, contamination by erysipelas failed to occur with either patient.

The histories of these cases are further interesting because they illustrate in a striking manner the multitude of diseases which may affect a single patient after his entrance into a military hospital.

The first operation was undertaken on the theory that the patient was suffering from streptococcic mastoiditis and would therefore suffer little danger from infection by another strain of the streptococcus hemolyticus. This supposition was proved to be erroneous and yet no harm befell the patient. In the case of the second patient cultures taken from the mastoid showed the presence of streptococcus hemolyticus.

Case 224. Cook, white, age 22. Admitted Nov. 29, 1918, for tonsillitis and as a meningitis suspect. Nov. 30th, 40cc. of clear fluid under great pressure was removed by spinal puncture and the meningococcus found. Patient treated by anti-meningococcic serum administered by both intraspinous and intravenous injections. The patient made a rapid recovery but on Dec. 9th the symptoms of meningitis returned and on spinal puncture the presence of Friedlander bacilli was demonstrated. The patient was treated for this new infection and a cure effected.

On Dec. 17th facial erysipelas developed together with otitis media of the right side. Spontaneous rupture of the drum membrane followed and a culture taken from the discharge present in the external auditory canal showed the presence of staphylococcus and streptococcus hemolyticus. On Dec. 22 a consultant from the otolaryngological service was called, made the diagnosis of otitis media and mastoiditis of the right side but advised against operation on account of the lack of resistance of the patient and the presence of erysipelas in the mastoid region of the side affected. On the following day, Dec. 23, the writer was called in consultation and found the symptoms of mastoid disease had increased in intensity. There was a profuse purulent discharge, great mastoid tenderness, and sagging of the canal wall. The ward surgeon and incidentally the consultant for the meningitis service were averse to having the patient operated upon although his condition was becoming more unfavorable. The facts were accordingly referred to the Chief of the Surgical service for a decision. This officer ruled that with streptococcus hemolyticus both inside the mastoid and outside there was little to be feared from operative procedure. Accordingly on the morning of Dec. 24 the patient was operated upon by the writer in a cubicle of the meningitis ward.

The antrum and the mastoid cells including those at the tip were found to be completely filled with pus and bony detritus. Care was taken to avoid exposure of the dura or lateral sinus. The time consumed by the operation was fifteen minutes. Culture taken from the pus obtained from the mastoid cells showed contrary to expectation only the staphylococcus. The operative wound was treated by the Carrel-Dakin method. At no time did infection of the wound by the streptococcus of erysipelas occur. On Jan. 5 the patient had recovered from his erysipelas and the ear was dry. Complete healing of the post-auricular wound had taken place by Jan. 27. On this date, however, there appeared to be a recurrence of the erysipelas and the patient was returned to the infectious service for treatment of this affection. The streptococcus which was reported in the culture taken from the ear at the onset of otitis media was no doubt a contamination from the erysipelas of the auricle.

Patient was returned to duty Feb. 5, 1919.

Case 252. Private, age 23, white, service sixteen months. Admitted Feb. 7, 1919, to the urological wards with specific urethritis. On Feb. 13 there was suppurative otitis media of the right side with some tenderness over the mastoid. Examination showed the presence of a pin-point perforation and paracentesis was performed to facilitate drainage. The next day a swelling in the parotid region led to a tentative diagnosis of mumps but on Feb. 15 it was clear that the patient had facial erysipelas instead. Feb. 25 Lieut. McCarthy examined the patient, found some mastoid oedema but was unable to say whether a mastoiditis was present. Some pain and tenderness in the neck below the tip probably indicative of a beginning Bezold's abscess. Feb. 26 the patient was examined by Capt. Harry Boyd-Snee then Chief of the Otolaryngological Service who found the right ear discharging profusely and tenderness and oedema over the tip of the mastoid. This officer advised operation which was refused by the patient. On Feb. 28 the patient was seen by the writer. At this time there was a large collection of pus over the mastoid process and as the patient now consented to operation this was immediately performed in a cubicle in the erysipelas ward. The abscess was found to be superficial to the periosteum and to the sterno-mastoid fascia. It was evacuated and a complete exenteration of the mastoid performed. The wound was treated by the Carrel-Dakin method, but by March 21 had become foul from an excessive growth of flabby granulations. These were cleaned out on this date, the wound healed promptly and the patient was returned to duty April 4, 1919.

At no time during the treatment of the mastoid wound were there any signs or symptoms to indicate contamination of the wound by erysipelas.

Conclusions.

1. Otitis media occuring in the presence of facial erysipelas should not be ascribed to the streptococcus unless this is the only organism found in the aural discharge.
2. In the two cases observed in which the mastoid wounds were treated by the Carrel-Dakin method erysipelas did not contaminate the mastoid wound although it was present in the surrounding integument.

The Responsibility of the Oculist to the Adult Blind.*

Jas. M. Patton, M. D., Omaha.

This subject was suggested to me over a year ago through consideration of the extensive plans which were proposed by the Government for the care of the soldiers who were blinded during the war. All the way from the evacuation hospitals to the vocational schools, the Government had well organized machinery for the care of these unfortunates. This was most commendable and although the expense was enormous and the outlay of effort very great, no one would dare to say that the government did any more than it should for the care of this type of injury. We are all more or less familiar with the plans outlined by the medical department and I am sure have been impressed with the practical results obtained. I particularly recall a young tank driver who lost both eyes during the Argonne offensive. Almost as soon as he got to the hospital, in connection with others, he came under the influence of the special reconstruction service of the center. By the time he was ready to start for Savenay he was beginning to gain assurance and not only cheerfully cooperated with every effort made for his betterment, but was equally active in helping those of his blinded companions who were not quite so apt in adapting themselves to their changed conditions.

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*Read before the Nebraska Eye and Ear Academy, May 24, 1920.

Fortunately, in spite of the large number of our men engaged, there were comparatively few totally blinded, probably considerably less than a hundred and fifty, and as I thought how the Government was so willing to accept the responsibility for the care of these few, I asked myself, "What are we as oculists doing for the comparatively large number of adults, blinded, or practically so, who pass through our hands from year to year." Naturally, a good many of these persons are of advanced age. At the same time, there always are those who are still in active life, to whom blindness must come as a great deprivation. Of course, we sympathize with them and it is one of the most painful phases of our professional life when we have to tell a vigorous young man that he is hopelessly blind, and I doubt whether many of us ever do this without the thought of what would we do if we were in his place. We give him and his relatives a little sympathetic generalization and often let it go at that.

In a hasty survey of our records for the past year, I have been able to find case reports of forty-five above the age of eighteen years who have come to us with vision of 20/200 or less in whom there was no chance of improvement and in most of whom there would probably be a gradual decrease of such vision as they had. Of these, twenty-seven were men and eighteen were women. Nineteen of them were between the ages of eighteen and forty-nine, eight between fifty and fifty-nine, the remaining eighteen being above sixty. As to the cause of blindness, eleven were from glaucoma, nine from optic atrophy, seven from some form of corneal degeneration, six from retinitis, three from trachoma and its sequella, two from double retinal detachment, two from wood alcohol poisoning, two from sympathetic ophthalmia, and one each from buphthalmos, bullet wound of both orbits and central degeneration with nystagmus. This list is necessarily incomplete, owing to the fact that these cases are scattered indiscriminately through our records and are easily overlooked. But even limiting them to forty-five; when we consider that this number appeared in one practice, it is easy to estimate the large number of adults in this country alone who become blind during the course of the year.

I have been unable to get any accurate statistics as to our adult blind population in the state, but Best in his splendid work entitled "The Blind," gives the visually defective population as something over four hundred, and goes on to mention Nebraska as one of the states that is making active effort to care for her blinded citizens. In a recent conversation with Mr. N. C. Abbott, superintendent of the Nebraska School for the Blind, he told me that at least one-third of the blind students in the school were over eighteen years of age. He also told of how the legislature had appropriated, in the last five years, approximately $10,000.00 to be used for the benefit of the adult blind, both within and without the limits of the school. Part of this has been utilized to furnish scholarships in universities and technical schools for unusually bright students. Part has been loaned to blinded individuals to assist them in starting in business, to buy supplies, etc. This becomes a revolving fund as the borrower pays a certain rate of interest and the loans are for a comparatively short term. A further portion of this was used to make a survey of the needs of the blind in the state, the work being done by a graduate of the Nebraska School, Mr. Lyle Harris, himself totally blind. Mr. Harris was able to get in touch with a total of 404 individuals of whom 176 were minors and 328 adults. It is interesting to note that of this 404, 129 were entirely self-supporting, 121 partially self-supporting, and 154 who were entirely dependent. This number includes minors and those who were mentally incapacitated. Mr. Harris estimated that there were at least fifty more blind in the state but he was unable to secure sufficiently accurate data for classification.

It would seem to me that these figures should arouse us, as oculists, to something more than mere passing sympathy. Of course, theoretically, our interest ceases when the patient reaches the point where our professional skill is of no further avail. On the other hand, the mere fact that we are oculists makes us morally responsible, not only to conserve and restore vision wherever possible, but also to do all within our power to advise our patients as to the best methods of reconstruction and adaptation to their changed conditions.

Fortunately, the average blind patient is inclined to be optimistic. True, he is deprived of the use of his eyes, but he is able to gain much valuable information through his other senses, and if he is of average intelligence, it is surprising how quickly he learns to perceive and interpret sensations which were ignored so long as he could see. Occasionally, a patient will be very much depressed and these cases should be given prompt and energetic attention. Even individuals who at first may be optimistic, if not started to work rather promptly, will sometimes sink into such profound dejection that they cannot be brought back to normal. This was early recognized by the British in the care of their blinded soldiers, and it was the policy of our Senior Consultant in Ophthalmology in the A. E. F. that every blinded soldier should be given the first lessons in personal reconstruction as soon as his condition would permit.

Of course, if the adult, on becoming blind or when it becomes evident that his sight is to be lost, could be placed in one of our State schools, he would probably develop more rapidly and logically than in any other way, but I find that comparatively few such adults are willing to go to institutions. Some because they have certain responsibilities which they cannot leave, while others hesitate to deprive themselves of the care and society of their immediate family and friends. It is to these two classes that we can be of the greatest service as much depends on their getting properly started in their new relationship to their environment.

Logically, the first lesson for the blinded individual is to learn to care for his personal needs, to dress and undress himself, to order his life in a most painstakingly systematic manner, always to place his clothing and personal effects in a definite position so that they can be readily found. Friends and attendants should be taught not to re-arrange or disarrange wardrobes, dressers, desks, etc., with which the blind person is familiar. This is especially true in regard to pieces of furniture in the room. The pernicious habit of so many housewives of perpetually changing the arrangement of furniture is sufficiently aggravating to a person who sees. To the individual who is blind, it becomes a real tragedy. Personal neatness should be earnestly sought for by the blinded person and special training given in arranging his toilet, and care in eating, not to allow his clothing to become soiled by particles of food. Where it is at all possible, this training should begin before the patient becomes absolutely blind, but even in cases of sudden blindness brought on by traumatism or otherwise, very gratifying results can be obtained by painstaking effort. The patient should be taught to orient himself, first, in his room, then about the house, and later on about the grounds. A clock kept in the same place is a great help, a squeaking board in the floor, the chirping of a pet bird all are means of giving definite location.

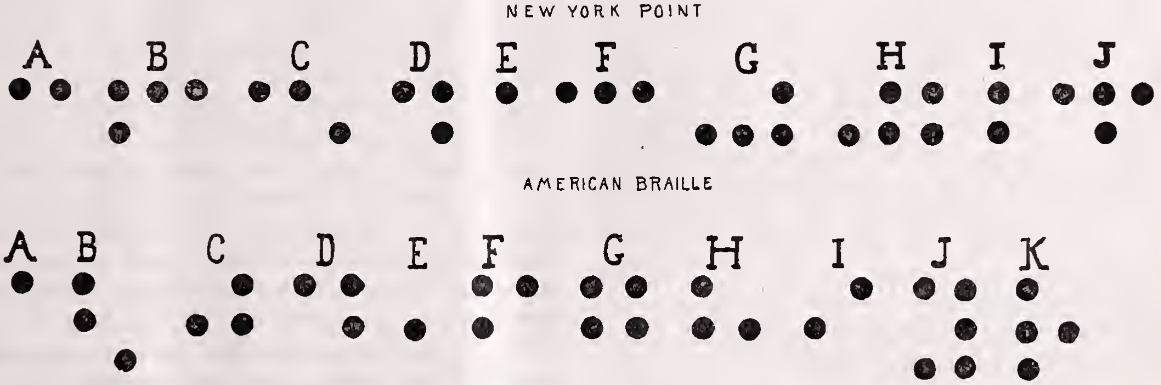
At St. Dunstan's, the wonderful reconstruction hospital in London conducted by Sir Arthur Pearson, himself blinded for many years, certain hallways and walks through the various rooms were laid with strips of linoleum so that the blinded soldier could tell at once when he had stepped from the linoleum path to the wood or tile floor. On the grounds, ropes were stretched from place to place for the guidance of beginners, but from Sir Arthur Pearson's report in his splendid book "Victory Over Blindness," he says it was remarkable how quickly the men would learn to get around the buildings and grounds without paying attention to the guide ropes.

I recall a patient of ours, a farmer in the northern part of the state, who, although totally blind from glaucoma for a number of years, took care of practically all of the ordinary chores, feeding cattle, hogs, carrying wood, etc., getting around almost as freely as he did before he became blind. He had wires stretched from various points which acted as guides, but he soon got to rely very little on these artificial aids.

Early self-reliance should be insisted upon. Better to take a few bumps than to be overtimid. Being deprived of vision stimulates the recognition of sound, densities, etc. The memory becomes doubly active, sensations and recognition of air currents, sound waves and heat radiations warn the blind person that he is approaching certain obstructions.

The blind person should be urged to mix with seeing people as much as possible. They should speak of reading and seeing the same as persons who have the use of their eyes as they are able to gain many of the same sensations through other senses and it keeps them from the feeling that they are different. Optimism should be cultivated under all circumstances.

These suggestions could be multiplied indefinitely but I would add a word to those who customarily or otherwise are in the habit of assisting blinded persons. Do not, as a rule, seize the blinded person by the arm and attempt to push him around. It is much better to have him take your arm as he is then able to judge from your movements as to how to proceed. Warn patients quietly of approaching steps, pillars, etc. Also when walking with a blinded person, tell him of the approach of mutual acquaintances, especially of ladies so that he may be able to doff his hat as he would under normal conditions. Also describe interesting incidents of landscape or individuals, comparing them as much as possible with conditions which were familiar to the blind person before he lost his sight. This adds greatly to the enjoyment of the blind person and incidentally increases self-reliance.



Above: New York Point. Six dots arranged in a quadrilateral, three dots long and two broad as shown in letters B and H.
Below: American Braille. Two dots long and three deep as shown in letters J and K.

As to the choice of occupation for the person who has lost his sight, generally speaking he should develop along the lines with which he was familiar before he lost his sight. Farmers can successfully engage in stock and poultry raising, tree culture and property management; housewives in knitting, sewing, weaving, music; mechanics in weaving, carpentering, shoemaking; clerks, students, etc., in typewriting, massage, music, administrative work, etc. There is a special field for bright persons of good intelligence as teachers of the blind. It has been the observation of Sir Arthur Pearson and others who have had wide experience in teaching the blind, that a person who has lost his sight and so far triumphed over his affliction that he is qualified to teach, is not only an accurate and sympathetic teacher, but the fact that he has succeeded in overcoming his misfortune makes him a real stimulus to the pupil.

Mr. Harris, in his survey of the blind of Nebraska, gives the following list of occupations followed by our blind population: "Farmers, gardeners, stockmen, hotel keepers, restaurant men, confectioners, cigar vendors, clothiers, grocers, coal and grain merchants, music and novelty dealers, broom makers, harness makers, music teachers, osteopaths, general salesmen, solicitors, teachers, printers both textile and print, concert players and singers, piano tuners, managers of livery lines, news correspondents, general housekeepers, conductors of bands and orchestras, news agents, and one engaged in a matrimonial bureau." This list may be materially increased according to the individual ability and disposition of the blinded person.

The first systematic education of the blind was attempted by Valentine Haug in 1784, who discovered a blind boy begging in the streets of Paris and offered him pay as compensation for his lost occupation. Since his early efforts, many societies have been formed and much has been accomplished.

As to the systems of education, I have spoken of the splendid work done by Mr. Abbott and his associates in Nebraska City, but as has already been pointed out, they are only able to reach a limited number. Many of the states have well developed systems of home instruction. A number of salaried teachers give individual instruction to the blinded in their homes. This home teaching has been found to be very practical and in many instances is carried on by teachers who are themselves blind. Some progress has been made in correspondence courses but so far these have not been developed to what seems to be their full efficiency.

The individual should be early taught to read some form of type adapted for the blind. Unfortunately, there is no absolute standard print, owing to modifications which have been made from time to time, but it is generally conceded that some form of the so-called "point" is the most practical and easily learned. As you see from the enclosed chart, which is a revised Braille, the individual letters are represented by various arrangements of six dots, and with persistence, it is quite remarkable how quickly the blind person will learn to read these characters. Special frames are available for writing point so that the blind soon learn to communicate with each other by this means. Special libraries have been built up through which the blind anywhere can secure such books and magazines as they desire. There are a number of establishments devoted exclusively to printing literature in the various systems employed by the blind, and magazines and other current periodicals are available.

The blind quickly become proficient in the use of the typewriter and I am told that in Savenay, where the blind were concentrated in the A. E. F., the typewriters devoted to their use were constantly employed. The use of the typewriter is rather easily acquired and with a little oversight from someone who can see to the condition of ribbons, etc., the person is not only able to amuse himself but in many cases can fill the position of a regular typist. With the use of the dictaphone, their practical usefulness is greatly increased.

Special watches and other mechanical contrivances have been provided for the blind and much can be done to relieve the tediousness of what otherwise might be a very heavy existence.

Finally, not the least important, is our advice with regard to amusements. Whether we will admit it or not, we all require a certain amount of relaxation and this is especially true of the individual who is deprived of his sight. Various games have been devised especially suited to the blind individual. Special dominoes, decks of cards, puzzles, etc., are always acceptable. As suggested before, blind persons should be encouraged to mix as much as possible with those who see. Blind individuals who have a sense of rhythm quickly become sufficiently skillful at dancing to enjoy it greatly. Music is a source of great mental relief and enjoyment to many. Walking, swimming, and many of the field sports are indulged in by those who are totally blind, and Sir Arthur Pearson tells of exciting boat races, guided, of course by a seeing coxswain, which were pulled off by the various groups of blinded soldiers. Until the patient becomes proficient in reading point, he will greatly appreciate having someone read to him, and with a little ordinary forethought, the blind can be informed of a great many things through our general conversation.

In conclusion it seems to me that as oculists, we should thoroughly familiarize ourselves with the various institutions and methods for the instruction of the adult blind, and even though we may not restore their sight, we can at least give them a valuable start toward vocational social reconstruction.

Results of Some Experimental Work With Sodium Cacodylate on Athreptic Infants.*

Floyd Clarke, M. D., and Andrew Dow, M. D., Omaha

The physician is rather frequently confronted with a type of infant, who, because of some nutritional disturbance, either fails to gain in weight, or the gain is so slight as to be almost negligible.

This condition of insufficient nutrition is sometimes called Athrepsia. The condition is prevalent in hospitals or institutions where many babies are housed. However, it is not uncommon in private practice and among the well-to-do. Its occurrence is much more frequent in the artificially fed infant, although, it may be encountered occasionally in the breast fed.

One type of this class of infants will take its food well, does not vomit, and there is no indication of digestive disturbance. The food may be of sufficient caloric value. The second type of case, will tolerate only a certain amount of food. In feeding this type, one has to be extremely careful not to overtax this food tolerance. They are particularly unable to digest any normal amount of fat. If one exceeds their food tolerance there occurs a definite gastro-intestional upset, with vomiting, usually a diarrhoea and more rapid loss of weight.

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*Read before the Sioux Valley Medical Association, Sioux City, Ia., January 21 and 22, 1920.

There is in both types an inability to properly assimilate food, so as to make a normal gain in weight, in spite of careful regime as to food, time and regularity of feeding.

Careful manipulation of the food, even resorting to breast feeding, makes very little, if any, change in the infant. They do not do well. They are below par physically, anemic, and compare very unfavorably with the normal, healthy infant of the same age.

In groping about for a possible solution of this problem, it seemed to one of us that the administration of arsenic to these cases might so improve them physically as to enable them to take on more weight. Spencer L. Dawes and H. C. Jackson, in a series of experiments on dogs and rabbits, concluded that after the injection of sodium cacodylate, arsenic in inorganic form, makes its appearance in the tissues of the body. The animal body possesses the power to reduce or decompose the organic arsenic compound, sodium cacodylate, into the inorganic active arsenious or arsenic acid. Cacodyl or some of its salts are also found in the tissues after injections of sodium cacodylate, but they are of little or no therapeutic value. It is admitted that a considerable quantity of the inorganic arsenic is eliminated by the urine, and probably by the sweat and breath; but enough is retained to have some effect therapeutically.

In their experiments, Dawes and Jackson note that almost invariably after injections the patient gains in weight. In anemic cases the percentage of hemoglobin is always increased. Arsenic exerts a tonic effect, the nutrition improving, and even in health the individual taking it in carefully graduated doses, takes on more flesh, and is not readily fatigued.

In endeavoring to come to some conclusion in this class of cases, six infants were selected. They were all institution babies. The oldest child has been in the institution one year. Of the others, two have been in for five months; two for six months, and one for four months. They were all very much under weight and more or less anemic. They were all athreptic.

Before beginning the injections a von Pirquet test was done on each one with negative results. A blood Wassermann test from each infant proved negative. A routine urine examination yielded similar negative results.

Regarding the diet: One was taking cooked cereals, broths, toast, cooked vegetables, custards, jellies, and about one pint of milk to drink in twenty-four hours. Two were taking a modified milk formula of about the same caloric value. One was taking breast milk exclusively. One was on partial breast milk and modified milk; one was taking buttermilk with approximately a ten per cent corn syrup. Those taking a bottle or breast were fed every three hours, seven feedings in twenty-four hours. The little girl on mixed diet was fed four times daily. The feedings were not changed during the course of the injections.

Of the ages at the time of beginning injections, one was approximately fifteen months old; two, nine months old; three, six months old.

In all a series of eight injections were given at intervals of four days. All injections were given intramuscularly and by hypodermic. The youngest infant received one-fourth grain, as an initial dose; the oldest three-fourths grain. The dosage was gradually increased till the youngest was receiving three-fourths grain and the oldest one grain. The maximum dose at any time was one grain.

A blood examination was done on all the infants before the injections were begun. A second examination was done after two injections, and a third after the last injection. The blood examination included a hemoglobin estimation, red and white cell count, together with a differential leucocyte count. The red and white cell count remained nearly uniform throughout, nor was there any marked change in the differential count. There was, however, a striking increase in the hemoglobin in all the children. Three showed an increase of five points; one of ten points, one twenty points and one twenty-five points. This increase in hemoglobin is noted by other observers.

Of the gains in weight, one child failed to gain during the injections, but in the month succeeding gained one pound, ten ounces. Three gained approximately two pounds, and two gained one and one-third pounds. These gains have been continued since stopping the treatment. They all improved in nutrition and seem to be more hungry for their food when feeding time arrives.

From the foregoing, it may be possible to draw the following conclusions:

1. That carefully graduated doses of cacodylate of soda, when injected hypodermically infants, has no toxic influence.

2. The percentage of hemoglobin in the blood is uniformly increased.

3. While the series of cases is not large, they all showed a substantial gain in weight, and one may conclude that cacodylate of soda possesses tonic properties enabling the individual athreptic infant to take on weight, and possibly enable him to more properly assimilate his food and thus improve his nutrition.

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3. Sollman Text Book of Pharm., page 617.

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Abdominal Surgery Under Nitrous Oxide and Oxygen.*

W. H. Pruner, M. D., Omaha.

In 1918, 1919 and 1920 during the influenza epidemic I became interested in nitrous oxide and oxygen anaesthesia as a substitute for ether and chloroform. The frequency of post-operative pneumonia following ether anaesthesia caused the surgeon to abandon all operations with the exception of the acute cases, in which surgical interference was found to be necessary.

It was in this manner that I had the pleasure of working a series of cases with my co-worker and able anaesthetist, Dr. Harms. Our observations are purely from a practical standpoint and the one main factor and reason which caused me to use nitrous oxide and oxygen as a substitute for ether was, if possible, to escape post-operative pneumonia. The mortality of post-operative pneumonia has been very great during the past two years. The degree of virulency of pneumonia in these cases seems to be extreme and my experience is that most cases, even from the onset, show a marked degree of toxidosis. The extension of the disease is rapid and is accompanied with early cyanosis and death. The limitations to the use of nitrous oxide and oxygen are, according to some authorities without restrictions, but according to my observations this is rather a misleading or illusory argument. That it is a selective anaesthetic, not applicable in all cases seems a settled fact. Since the days of Priestly, the discoverer of nitrous oxide, it has been used chiefly by dentists and obstetricians. However, of late years it has been used by many successful surgeons of national repute. Andrews in 1868 published accounts of cases in which he had obtained a non-asphyxial form of anaesthesia by using oxygen with nitrous oxide. The technique in the administration and the improvement in the apparatus has been extensive to such a degree that by combining nitrous oxide with oxygen we are able to induce a satisfactory anaesthesia in most cases.

Crile and his co-workers who have been the foremost advocates of gas oxygen and whose theory of shock has been widely published, advance the theory of deoxygenation or paralysis of the vasomotor centres in the medulla and spinal cord with resultant loss of control of blood pressure in the arterial system and consequent collection of blood in the great splanchnic reservoir of the abdomen. The resultant fall of blood pressure is accompanied with a fall in temperature and with a weak and secondary exhaustion of the respiratory centers. The blood of the tissues not being properly oxygenated (oxygen starvation) leads to unconsciousness and paralysis of all vital centers. On the other hand Henderson, whose theory of acapnia or hyperactivity of the vasomotor center through the loss of CO_2 from the tissues and circulating blood is of the opinion that the condition of low arterial pressure noted in shock is not due to fatigue or inhibition or failure of any sort in the vasomotor centers. He points out that when death follows shock or intense physical suffering not complicated by hemorrhage the CO_2 content of the blood is diminished by excessive breathing. The hyperpnea involved a greater ventilation of the lungs than normal breathing with resultant diminution of CO_2 contents from the blood and finally the body as a whole. And when anaesthesia is attempted the respiration will show signs of failure. Carbon dioxide is a normal stimulant of respiration. If reduced pain alone maintains the breathing. Anaesthesia will remove the pain but breathing may cease for the reason that there is not enough carbon dioxide left in the blood to excite the respiratory center to activity. To this condition the name "Acapnia" has been given. The body as a whole has a greater store of carbon dioxide than oxygen and by diminishing the sensitiveness of respiratory center for the carbon dioxide inevitably leads to acapnia.

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

According to Henderson morphine and full anaesthesia diminish the activity of respiration under pain and prevent acapnia. In long suffering if morphine and chloroform be administered acapnia is hastened unless CO_2 is also administered. Nitrous oxide causes, according to some investigators no chemical or morphological changes of any kind. When fatalities occur it is generally the result of the administration of nitrous oxide alone. Nitrous oxide has no toxic effect as have chloroform and ether. Death occurs as a result of asphyxiation and is due to the inability of the administrator to recognize or differentiate between asphyxial and anaesthetic signs. The effect of N_2O upon the blood stream according to Buxton does not alter the red corpuscle, however it seems to form some association with haemoglobin and is able to displace oxygen in its chemical union in the blood. By properly regulating the proportions of N_2O and oxygen it is possible to keep the oxygenation of the tissues going on as in normal life and at the same time secure the physiological effect of nitrous oxide. Over ventilation is to be guarded against as Henderson has demonstrated that CO_2 in the blood is a respiratory stimulant.

Gatch claims beneficial effects by rebreathing of N_2O and O_2 due to the CO_2 which comes from expired air. It is the belief of Hamburger and Ewing that nitrous oxide and oxygen has little if any harmful effect upon the blood, it produces no permanent diminution of the haemoglobin; no anemia, no increased hemolysis. Although differences of opinion regarding its effect upon the blood have arisen it is generally accepted to be devoid of surgical importance in so far as it is considered of transitory character. Blood pressure is always increased with nitrous oxide given alone. With oxygen and air nitrous oxide may be administered for some time with very little variation in blood pressure.

McKesson uses an apparatus for measuring the blood pressure in connection with all anaesthetics for the purpose of anticipating shock. He says it is possible by an intelligent interpretation of the pulse, respiration and blood pressure to anticipate the occurrence of surgical shock at least twenty minutes and usually much longer. McKesson is an ardent advocator of nitrous oxide and oxygen.

Upon the respiratory center nitrous oxide is not injurious to the lungs, being a non-irritating gas.

According to Kemp, nitrous oxide acts most powerfully upon the central nervous system, especially the brain cortex. Buxton refers to the changes in the nervous system as being purely of vasomotor origin. Nitrous oxide when inhaled is a pleasant anaesthetic. During the first stage it renders the senses of the individual more acute. This is followed by analgesia and finally anaesthesia. Hallucinations often mark the hyperaesthetic stage which preceeds anaesthesia.

Crile's method of eliminating shock under anoci association removes all noxious stimuli psychic (fear, etc.) physical (traumatic operative) are prevented from reaching the brain, thereby the surgeon may operate without causing shock. According to Crile it is essential to use both local and general anaesthesia. He contends general anaesthesia renders the patient unconscious and eliminates psychic influences (fear, etc.), although it does not cut off or prevent noxious stimuli that originate in the field of operation due to handling and dissection from reaching the brain and causing depression and exhaustion of vital centers with subsequent shock. The local anaesthetic blocks off all noxious stimuli (physical, traumatic) which originate in the region of operation but does not prevent exhaustion shock due to fear. Hence, Crile thinks it essential to use both a general and local anaesthesia, and says that nitrous oxide and oxygen is the least harmful general anaesthetic and novocain the best local anaesthetic.

Contributing factors which enter into the successful administration of nitrous oxide and oxygen are manifold.

(1) In the first place team work is the one essential feature. It is true that an anaesthetist must be skilled and have an understanding judgment in the administration of nitrous oxide. The relation that the anaesthetist bears to the patient is analogous to that of the surgeon. The surgeon and the anaesthetist soon become accustomed to each other. It has been said that it is impossible to expect the best results from nitrous oxide and oxygen until the surgeon and the anaesthetist have a thorough understanding of each other.

The anaesthetist should be given time to get thorough relaxation before the surgeon begins. If this is not done it is possible that the patient will never be thoroughly relaxed during the operation. The surgeon has too frequently blundered in expecting too much from the anaesthetist. He has been guilty of unbecoming conduct in the operating room and has disobeyed all the laws of refinement. It seems that the anaesthetist, one who is skilled and trained, is able to state definitely when the operation should begin. The experienced anaesthetist watches the patient very closely at all times, that he may be able to give ample warning to the operator to abandon or quicken his work if the condition of the patient becomes unfavorable. It seems that he should be considered one of the component parts in the make up of the surgical team. It is true that ether or chloroform can be administered by an unskilled hand, and it is perhaps this reason that places them foremost among anaesthetics, but when nitrous oxide is used it must be given by a skilled and trained person. One who is familiar with its physiological action on the body.

Heretofore the skill of the anaesthetist has never been looked upon with much gravity. However, at present the field of anaesthesia has made some headway in establishing a separate and exclusive specialty. In a Cleveland hospital a special course for nitrous oxide anaesthesia is being conducted under the direction of Crile. The profession has never been burdened with too many good anaesthetists, and with the advent of our increased knowledge in the use of nitrous oxide and with the profession becoming more accustomed to its qualifications, it appears to me that it will become a more frequently used anaesthetic, i. e., it is especially adapted for selected cases and it is only a question of time until its use will become more universal.

The value of team work has its advantages. It is no longer an experiment. That it minimizes the danger there is no question, and should danger arise the situation is the more easily handled and with a safe gamble of overcoming a fatality which would be inevitable in the hands of the inexperienced.

It is not infrequent that predisposing causes other than anaesthesia induce shock. Rough handling of tissues or prolonged surgical interference frequently cause shock. It is essential that the operator should be dextrous and agile, but his agility should not be of such a degree as to cause possible error in overlooking existing pathology. While on the other hand prolonged manipulation may be just as harmful. Speed should be governed according to the condition of the patient.

Pre-operative medication.

(2) It is essential to have administered one-half hour before operation a hypodermic of ¼ grain morphine and 1/120 of atropine. If given one hour before operation, for obvious reasons it does not seem to work as satisfactorily as when given exactly one-half hour before. The value of morphine before and after operation has been too little appreciated.

(3) Selection of cases.

There seems to be a certain type of case in which nitrous oxide and oxygen should be administered. In selecting our cases no effort has been made to draw a definite line. Personally I have taken the cases as they came and used the nitrous oxide and oxygen in all forms of abdominal surgery. The cases that I have especially felt required this form of anaesthesia were those in which there were some respiratory disturbances, renal or cardio vascular affections, in cases where several anaesthetics had been previously administered, nervous and neurotic patients who entertain a fear against ether or chloroform.

Miller of Providence, R. I., has classified his cases into three classes:

(1) Good risks:
Patients free from organic disease where surgical interference is not considered serious.

(2) Fair risks:
Patients suffering from organic disease where surgical condition is not especially serious.

(3) Poor risks:
Patients whose surgical condition is so serious or so far advanced that a fatality is probable.

Patients in the first class are expected to recover. Should a fatality occur among this class the case should be gone over carefully and if possible determine whether the preoperative prognosis was in error or if the surgical team is to blame for the fatality.

Patients of the second class who are suffering from some organic disease such as diabetes and in which case some acute condition may arise such as appendicitis and where an operation is urgently required. If the patient develops coma and death the fatality would be beyond human control.

Patients of the third class are considered almost hopeless from the start. Such men as Crile, Miller, McKesson and others who have adequate clinical material are the better able to type their cases.

The greatest fault with gas oxygen will be found in abdominal surgery. Many operators claim they do not get proper relaxation. It is true that this objection may be eliminated if the proper pre-operative medication has been given and if the operator will give the anaesthetist sufficient time to get the patient thoroughly relaxed before he begins. It has been suggested and I have found it to be the case, if a large incision is made in the beginning so the surgeon may have free access to the abdominal cavity without exerting too great a force upon the structures that this objection may be overcome.

It has been the experience of the writer that when the patient is placed in the extreme Trendelenburg position the patient does not seem to tolerate the anaesthetic so well. It is not advisable to carry on an extended operation in this position. In case it is necessary for a lengthy operation in this position it may be advisable to finish the anaesthesia with ether.

McKesson and Moots of Toledo, O., have done extensive research work with gas oxygen since 1907. They have paid particular attention to pulse pressure. All cases are recorded and most interest data maintained. A great deal of dependence is placed upon the resistence of the patient by so doing. Blood pressure and pulse determination are made every few minutes during the course of the operation.

We have made no attempt to carry on such experiments other then having the blood pressure taken before and after operation. This has been my regular routine regardless of what anaesthetic has been administered.

Personal Observations.

My own personal observation is such as causes me to feel that for one to achieve or obtain a relative degree of success with the employment of gas oxygen he must have a trained and skilled anaesthetist. Dr. Harms has been able to induce thorough relaxation in all cases with the exception of one, and in this particular case the proper pre-operative medication had not been given. In one case Dr. Harms finished the anaesthesia with ether.

I have found that gastro intestinal irritation is eliminated. I have yet to see a single patient vomit following the administration of nitrous oxide and oxygen. Furthermore the patient is less susceptible to gas pains. Liquid nourishment can be given at an earlier period than following ether anaesthesia. The convalescent period is not delayed by continued gastric disturbance as we frequently see following ether. The kidneys, in our series of cases show no signs of being affected. The most dramatic thing to me is, that in most instances the patient is awake upon leaving the operating room or awakens on the way to bedroom. They seem to have awakened from an almost normal sleep. The conclusion which I have reached concerning nitrous oxide anaesthesia are in the main an endorsement of its value as according to the views of those who have extensively employed it. I have found it to be very useful in minor as well as major operations. It seems that with the advent of the epidemic influenza period when the surgeon frequently has complicating the operation a serious post operative pneumonia, an anaesthetic which is less apt to cause pneumonia should be substituted for ether. Nitrous oxide and oxygen in this particular answers the purpose admirably being the most acceptable of all anaesthetics.

Conclusions.

The distress of the first stage of ether is avoided. It saves time and is pleasant to take. Many times a patient can be persuaded to submit to an operation under it when ether would be declined. The disadvantages are chiefly due to inability to always obtain an experienced anaesthetist. It should not be employed by an inexperienced anaesthetist. Other objections being the awkwardness or unwieldiness of the apparatus should not outweigh the applicability and usefulness of the anaesthesia, simply because it is a clumsy affair. It is a fact that the sudden rush of gas from the cylinder is annoying and may possibly disturb the surgeon's nervous system. However in time one becomes accustomed to the noise.

The achievement in all branches of medicine during the past fifty years has been marvelous. Various branches have had an era of popularity. We of the younger generation have heard inklings of eras when the rhinologist came into his own with the resection of the turbinate bone. It has passed into obscurity and embedded tonsils have come in. The Weir Mitchell rest cure and mucous colitis got into the limelight. Static machines which were the equipment of most busy men, have now been abandoned for other improved electrical apparatus, e. g., the X-ray. The surgeon has removed the appendix so frequently that one must assume it a symptom for most all diseases. But during all the epochs of advancement of medicine, ether and chloroform have withstood their ground, and to this day ether especially stands foremost among all anaesthetics employed.

So many wonderful discoveries constantly appearing in literature have only momentary cogitation. For upon application their usefulness is found to be utterly hypothetical. For example we can call to our recollection our distinguished German pathologist who discovered the turtle tubercular bacillus serum who claimed it to be a positive cure for tuberculosis. Whereas upon application the therapeutic value of his serum blew up like a balloon, and finally passed out of existence with many other of the so called specifics. It is plain to be seen that the profession as individuals are studying and mastering many problems. They are not so susceptible to grasp many of the so called wonderful discoveries until they have had the pleasure of seeing or trying out a series of experimentations of these so called dark-horses. The well trained man of today thinks for himself. The half educated works in the dark and allows the other fellow to do his thinking. Leaders, it has been said, often despite their great intelligence and high position, stampede the rank and file of us like sheep. Our leaders are subject to the sway of personal equation. Others who try for leadership make capital out of the faults of their opponents, not being able to see their own. They ride roughshod in their flight to gain recognition. The alert and advancing student of medicine, one whose mind is not malicious of the advancement of his fellowmen, is an eaves dropper and is always willing to listen and hear of the meritorious achievements of others and is ready to put into application anything which will have bearing upon attaining for him ultimate success. Gas oxygen has gone through the eras of criticism and a well known surgeon whom I recently conversed with, said that in his recent visits to the hospitals of the larger cities he found gas oxygen becoming more universally used. The writer believes that it will unquestionably take its place among the anaesthetic group in the future.

Technique for Administration of Nitrous Oxide and Oxygen in Major Surgery.

B. H. Harms, D. D. S., Omaha.

In describing this technique of administering Nitrous Oxide and Oxygen for major surgical operations, in this series of cases, I wish to state that I have no quarrel with anyone who has a more scientific method of administering this anaesthetic.

I will describe to you briefly how I handle this anaesthetic for major surgery and my results from a practical standpoint will speak for themselves.

The method of administration is similar to that of the Gatch method.

It is important and very necessary, espec-

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ially where or when good relaxation is desired, that the patient be given a pre-anaesthetic dose of some hypnotic, usually morphine with atrophine one-half hour before beginning the anaesthetic.

The mask is fitted to the patient's face, care is taken to prevent admission of air at the sides of the nose.

The air valve on the inhaler is open until the Nitrous Oxide is admitted from the cylinder. At this time the air valve is closed and the gas is allowed to flow into the bag which becomes inflated. The patient inhaling Nitrous Oxide from the bag and exhaling out through the exhalation valve. As soon as the patient shows signs of becoming anaesthetized a small amount of oxygen from the oxygen cylinder, is allowed to enter the bag and at the same time the exhalation valve is closed tight so that the patient exhales into the bag. This is known as rebreathing.

We must remember that a patient can only breath Nitrous Oxide alone when all air and oxygen is excluded for fifty-six seconds, according to Hewitt, at which time oxygen in some form must be admitted or the patient will become asphyxiated. By admitting a small amount of oxygen during the induction period there is less danger of carrying the patient too deep.

A better anaesthesia and better relaxation will prevail throughout the operation if the anaesthetist is given a little time in which to thoroughly anaesthetize and relax his patient before the surgical procedure is attempted. While it is true that a patient may be anaesthetized in one minute it is better to use at least five minutes to have every thing running smoothly and the reflexes given time to become abolished.

I wish to go on record here and now as saying that color (cyanosis) is a fooler and not a true sign of anaesthesia. I mean by that, that one patient may be deeply cyanotic and still be conscious of all that is going on, in other words the patient is aphyxiated and not anaesthetized. On the other hand an anemic patient may be over anaesthetized and not be cyanotic.

In this form of anaesthesia no one sign or symptom can be relied upon to tell us when the patient is properly anaesthetized. We must note the reflexes of the eye, the character of the breathing, muscular tone, and last of all color of the features (cyanosis).

There are two ways of getting relaxation with this form of anaesthesia:

(1) The first and most common method used is to add to the Nitrous Oxide and Oxygen a few drops of ether.

(2) The method of McKesson which is to anaesthetize the patient to the point of saturation and then lighten the anaesthesia until the proper surgical stage of anaesthesia has been reached.

Neither of these methods should be used by anyone except an expert anaesthetist. In the first method few but an expert do recognize the difference between over oxygenation and ether flush which if not recognized will result in over anaesthetizing the patient and abolishing respiratory reflexes. I know of at least one instance where this has occurred.

An anaesthetist using the second method (McKesson) must be thoroughly familiar with the quick action of the anaesthetic and the signs and symptoms of the patient during this form of anaesthesia.

I am very much in favor from my own experience of some form of rebreathing with this anaesthetic during major surgical operations. By so doing we conserve the carbon-dioxide which is not a waste product but rather a stimulant to respiration and a factor to be considered in case of shock. Where the rebreathing method has been used I have never seen a patient show sign of shock or the temperature of the body lowered and most of my cases have been with patients that were very poor risks.

The length of time that a patient may rebreath in a bag of this size depends entirely upon the patient; some patients can stand but very little rebreathing whereas others may be able to rebreath four minutes in a bag of this size. Please remember that we are now dealing with three gases in this bag: (1) Nitrous Oxide, (2) Oxygen, (3) Carbon-dioxide. The oxygen is being continually used up and replaced by carbon-dioxide while the nitrous oxide remains stable, does not change. It is therefore necessary that the contents of the bag be changed for fresh nitrous oxide and oxygen, otherwise, we would soon have the bag containing only nitrous oxide and carbon-dioxide and a stage of asphyxiation rather than anesthesia.

The exhalation valve is then opened and the patient exhales each breath into the air until the bag is empty. The bag is then filled with a fresh mixture of gases which the patient again rebreathes. No attempt is made to measure the exact percentage of oxygen given. This is regarded as unnecessary, it is perfectly easy to add directly from the oxygen cylinder exactly the right amount of this gas to each bag of nitrous oxide.

The apparatus which I am using is devoid of all clockwork, dials, indicators, pressure regulators, percentage gauges, and the like. My patient's symptoms are my guide as to the amount, percentage and rate of the anaesthetic that I should use.

All that is needed to successfully maintain surgical anaesthesia with Nitrous Oxide and Oxygen by the above method is an ordinary accurately fitting face piece that will also allow rebreathing when indicated and a rubber bag. The bag is kept filled with Nitrous Oxide and a puff of Oxygen is given whenever indicated by cyanosis or active reflexes.

While this apparatus has been used in thousands of cases with satisfactory results, from the description of the apparatus and the method of administration as given above it can be readily perceived that unless the strictest attention is given to the administration, flaws will occur to mar the fixed plane of anaesthesia that has been aimed for.

What Should Be the Attitude of Physicians Toward Health Insurance?*

Frederick R. Green, A. M., M. D.
Secretary, Council on Health and Public Instruction of the American Medical Association.

When one first takes up the study of so-called health insurance, he is confronted with an amount of evidence that is bewildering. The reports of the state commissions alone constitute a formidable mass of material. Since Jan. 1, 1913, there have appeared in medical journals alone over 350 articles on this question. The literature on the subject in foreign countries is even larger. Masses of actuarial and statistical reports and innumerable pages of partisan controversy only add to the enormous mass of material from which writers on both sides of the question have drawn arguments and selected figures to sustain them, so that the reader is bewildered by contradictory statistics drawn from equally reliable sources. To add to the confusion, each group has viewed the subject largely from its own point of view and has discussed it almost entirely from the standpoint of its own interests. This is particularly true of physicians who have limited their discussion almost exclusively to the medical features of the plan and those which affect physicians, overlooking the fact that social insurance is essentially an economic and not a medical question, that the provisions affecting physicians are secondary details as far as the proposition itself is concerned, no matter how important they may be to us as physicians, and that to limit the discussion of the question by physicians to the medical features of the plan is equivalent to conceding the claims of its proponents on its social and economic features. Medical care and attendance are necessities of the plan, only in case such a plan is adopted. Naturally, if social insurance is not adopted, there is no necessity for medical attendance. A discussion of the details of medical service bears the same relation to the plan in general that the discussion of the interior decoration of a house bears to the question of the erection of a house itself. If no house is built, no decorations are needed. Until a man decides whether or not he will build a house, he naturally does not consider how he is going to decorate it. The chief criticism which can be made on the attitude of the medical profession on this subject so far is that we have allowed ourselves to be diverted into a discussion of secondary questions and as a result we have failed to consider the main and fundamental questions at issue.

History of Health Insurance.

Let us first consider briefly the history of the proposed plan. Compulsory state industrial insurance, social or health insurance as it is variously called, originated in Germany in 1883. Responsibility for it is generally attributed to Bismarck, at that time the Chancellor of the German Empire which he had created in 1872. Laws providing for different forms of state regulation, partial or complete, compulsory or voluntary, have in the last thirty-five years been adopted in various

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European countries. An enumeration of these is unnecessary. Disputants on this question are not even able to agree on its history and present status, the advocates of social insurance claiming that "universal health insurance is established in not fewer than ten of the leading continental countries of Europe" and the opponents claiming that this statement is a "gross exaggeration." Apparently the advocates of the plan are claiming everything that they choose to call social insurance and the opponents are refusing to recognize anything that does not conform to their own definition.

The historical question is of little importance to us. If a need for social insurance in this country can be shown, then the action of other nations is immaterial. Unless its need in this country can be demonstrated conclusively, it would be no argument in its favor to show that every other nation had adopted it. Aside from the main question at issue, however, we can learn something from the experience of the medical profession in England.

Attitude of English Physicians.

When Lloyd George was preparing his social insurance bill in 1910, he consulted the representatives of the labor unions, the individual employers, the national industrial corporations, the friendly societies (the analog in England of our fraternal and benevolent associations), social workers, the philanthropists and the politicians, everyone, in short, except physicians, whose services were indispensable in carrying out this measure. Apparently it never occurred to him to secure their advice or criticisms. Physicians failed to realize the significance of the proposed plan and the tremendous effect it would have on the profession. This curious situation was probably due to the fact that for years the British medical profession had held itself aloof from the public and had had little, if any, influence on the framing of legislation on public health or social topics. It was consequently not until the bill had been drafted, introduced in parliament and advanced to the second reading that the physicians of England woke up to a realization of the situation. Unfortunately, instead of opposing the measure on social and economic grounds, they devoted themselves almost entirely to those provisions of the bill which provided for the compensation of doctors and the relations between physicians and patients. This attitude naturally created the impression in the public mind that physicians as a class had no economic objections to the measure and that their only interest was in seeing that they secured as high a rate of compensation as possible for their services. As a result of this limited and essentially trade union attitude toward the measure the medical profession of England had little, if any, influence in molding the main provisions of the bill and was obliged eventually to accept the terms offered.

Agitation in United States.

In this country, the subject was first taken up by the American Association for Labor Legislation, a voluntary body, with headquarters in New York and with about 3,000 members distributed through the different states. This Association had previously been active in urging the passage of several laws, notably workmen's compensation laws which have been adopted in forty-two states. In December, 1912, it organized its social insurance committee, which in 1914 prepared a tentative draft of a health insurance act, which in 1916 was introduced in the legislatures of Massachusetts, New York and New Jersey. In 1917, the bill was introduced into twelve state legislatures. None of these fifteen states adopted the bill. Eight of them (California, Massachusetts, New Jersey, Connecticut, Illinois, Ohio, Pennsylvania and Wisconsin) appointed commissions to investigate the subject. In Massachusetts and California, two successive commissions were appointed, making in all ten official bodies which have made surveys, collected evidence, held hearings and issued reports on this question. In New York a reconstruction commission, appointed by the Governor, also considered this subject. Of these, in Massachusetts, the first commission reported in favor of compulsory health insurance and the second commission reported adversely. In California both commissions reported in favor of the plan, but on a referendum to amend the state constitution so as to permit of the establishment of compulsory state health insurance, it was defeated by a vote of 358,324 to 133,858. In New Jersey and Ohio, the commissions reported favorably. In Connecticut, Wisconsin and Illinois, the majority of the commissions reported against it. In Pennsylvania, the commission recommended further study and investigation. In New York, the Governor's commission reported favorably.

What the Proposed Plan Is.

So much for the history of the movement in this country. Let us now ask what is this proposed plan, stated in its simplest terms. The standard bill drafted by the American Association for Labor Legislation can reasonably be taken as an authoritative statement of the proposed scheme. It provides that all employees earning less than a given amount shall be entitled to medical, surgical, hospital and nursing care, dental treatment, maternity benefits, cash benefits and funeral allowances. These services are to be paid for out of a fund of which the state furnishes one-fifth. Two-fifths are to be contributed by the employee in the form of compulsory payments of a certain percentage of his wages, variously estimated at from 3 to 7½ per cent, and the remaining two-fifths are contributed by the employer in the form of compulsory payments of about the same percentage of his payroll. This fund is to be administered by a local board for each group of 5,000 employees, to be composed of an equal number of representatives of employers and employees, all the local boards to be under a state commission which will determine the conditions of medical treatment, terms of compensation to physicians, etc.

Regarding the details which vary in different bills, but which do not change the principles involved, the maximum annual income as fixed by the British law was approximately $800 a year. That is, only employed persons whose gross annual income was $800 or less came under the compulsory provisions of the law. This has since been raised to $1,200. In the model bill drafted by the American Association for Labor Legislation, the maximum amount is $100 a month. In the Donohue-Davenport bill in New York, no limit was specified. The proportionate amounts to be contributed by the three parties also vary in different bills. The amount contributed by each employee is fixed by a sliding scale in accordance with which the amount contributed by the employee decreased and that contributed by the employer increased as the weekly earnings decreased in amount. Employees receiving less than $5 a week pay nothing, the employer paying 80 per cent and the state 20 per cent. Details regarding medical services also differ. Medical and surgical attendance is provided either by the appointment of certain physicians as whole time insurance physicians, or by the creation of a panel or list of physicians in each district willing to care for those insured. Proposals for the compensation of physicians also differ. The payment to each physician of a fixed salary, an annual pro rata division among all the physicians on the panel of the amount appropriated for medical and surgical services for the district or a capitation system by which each physician is paid in accordance with the number of persons treated or the amount of work done during the year, are among the plans proposed.

Arguments in Favor of It.

Such is the plan in its briefest terms. Endless discussion has taken place regarding details, with the result that the fundamental features have become obscured and lost sight of. What are the arguments in favor of it?

The brief on the model bill prepared by the American Association for Labor Legislation claims that there is at present a disproportionately large amount of sickness among employed persons causing immediate loss of time and wages and resulting eventually in incapacity and poverty; that there are as nearly as can be estimated 3,000,000 persons in the United States sick at any one time; that each of the 30,000,000 wage earners loses approximately nine days a year through illness; that the resultant annual wage loss amounts to half a billion dollars; that the wages paid American working men are inadequate to enable them to meet the expense of sickness and to bear the losses consequent on sickness and incapacity; and that it is therefore necessary to distribute this burden among three parties; viz., the employee, the employer and the state. The objects of the proposed plan are, therefore, primarily two: viz., to reduce to a minimum the amount of time lost by workmen through sickness and to divide between the state and the employer 60 per cent of the cost of the illness of employees, leaving 40 per cent for them to carry as their share.

It is impossible to discuss in detail the evidence presented by the advocates of social insurance in support of their proposition. It can only be pointed out here that all of the statements made above rest on estimates or opinions and not on facts. There are no figures in existence showing the death rate in the United States from different causes, the death rate in the United States among different social and industrial classes, the amount of sickness in the United States for any given period or class, the average income of workmen in the United States or the average amount of time lost by workmen through illness. Statements on these points are based on estimates made to prove widely different claims on both sides of the question. These estimates are compiled in various ways. Some are based on studies of small groups, the general conclusions drawn from these small groups being then expanded and applied at proportional rates to the entire population. Another favorite form of manufacturing statistics in this field is to assume that the mortality and morbidity rates, average annual incomes and average losses through sickness in one country or at one time can be applied without modification to another country at a different period. Such methods are clearly fallacious and untrustworthy. Statistics collected in Frankfort or Leipzig in 1887 are of no value in New York, Ohio or Illinois in 1920. Intensive study of a comparatively small group of families in the tenement house district of Chicago can hardly be accepted as representative of the entire population of the state. Conditions found in an old, densely settled manufacturing state like Massachusetts are of no value in discussing problems in comparatively young farming states like Kansas and Nebraska. Careful examination of the material produced as evidence shows that there are no reliable data on which to base general statements on this question. The only way in which acceptable evidence can be secured is by a comprehensive and exhaustive statewide survey of the state in which the proposed plan is under discussion, made not to secure evidence to support a preconceived theory, but rather to obtain facts as to existing conditions as a basis for whatever constructive action may be necessary. Such a survey has not yet been made in any state. Too often the advocate of any plan regards all statistics in favor of his proposition as conclusive and all evidence against the plan as unsatisfactory. One of the leading advocates of social insurance in a recent summary of the findings of the official health insurance commission states that of the eleven official reports, four, viz., California, Ohio, Pennsylvania and Illinois, "represent thoroughgoing studies of the problems of health insurance," and that the investigation made by the Illinois Commission was "probably the most thoroughgoing of all," yet this investigation only covered forty-one blocks in Chicago, containing approximately 3,000 families of which only 9 per cent are reported as having deficient incomes; while the report itself immediately after recommending compulsory health insurance says, "The findings of this section are not presented as absolutely conclusive and final. They must be weighed in the light of the necessary limitations of the hypothetical application of assumed standards to an actual situation considered as unaffected by their introduction. The evidence presented is largely circumstantial and presumptive and should be accepted with due reservation for this fact." If this is the view which the investigator had of the value of his own investigation, it is not strange that it failed to convince the Illinois Commission. Yet this report is put forward by the advocates of social insurance as "the most thoroughgoing of all."

Great importance is also attached to the reports of the California Commission. The report of the second commission is largely confined to a discussion of methods and standards, assuming without warrant that the underlying principles are proven. The first report, however, discusses the fundamental questions involved. While the general conclusions as stated are sweeping, the body of the report itself affords no basis for such conclusions. In fact, the commission repeatedly acknowledges its inability to secure any reliable information. The report says, "There is practically no scientific information bearing on this important question of unemployment." "The attempt on the part of the commission to discover the average number of weeks of employment secured by the worker in the leading trades in San Francisco proved a failure from the standpoint of accurate statistics." "The economic loss to the community resulting from the aggregate number of working days wasted through sickness can merely be guessed at." The Pennsylvania Commission, consisting of three members from each house and three appointed by the Governor, delegated practically all of the work to two women who were limited in time to three months and in money to $5,000. The material contained in this report is almost entirely compiled from other sources and contains but little original data, while the investigation is far too superficial and incomplete to justify placing a new, untried and expensive burden on the state.

Evidence Not Sufficient.

A careful study of the evidence presented in favor of health insurance and its relation to the assumptions drawn therefrom by the advocates of the plan would be extremely interesting if time permitted. It can only be said here that the evidence as contained in the official reports is not "overwhelming," neither does it clearly indicate the need for social insurance, as claimed by its advocates. On the contrary, the evidence is fragmentary, incomplete and unconvincing and many of the conclusions drawn are not justified by the evidence.

What the Proposed Plan Is Not.

Let us now examine the plan to determine what it is not.

1. In the first place, it is not insurance. The essential principle of insurance is the distribution of loss from any cause among a large number of persons subject to the same risk, so that the cost of the loss to any one will fall proportionately on all. For instance, 100,000 men owning houses, all of which have practically the same liability to destruction or injury by fire, either by mutual agreement or by taking out policies under a corporation, prorate among the entire number exposed to the same risk any losses that may arise to any one of the number, so that the loss of each one is distributed among the entire group rather than borne by the individual. This is insurance. But if outside parties, not subject to the risk, assume a part or all of the loss, it ceases to be insurance and becomes a subsidy. The proposed plan is not insurance since it does not distribute the loss among those exposed to the same risk but brings in two parties in no way sharers of the risk, viz., the employer and the state. If the proposed plan provided for distribution of the entire cost of illness of employees among themselves, either mutually or through a supervising corporation or the state, then it would be insurance. As it is, it is simply a method of taxing all the citizens of the state, either directly or indirectly, to furnish medical and surgical services to maintain the productive efficiency of part of the population. All the cost will ultimately come on the consumer and the citizen. Neither the employee nor the employer, as such, will bear any part of the expense. What would happen if such a plan were adopted in any state? The workman, finding that a certain amount was deducted from his wages each week, would immediately demand that his wages be increased enough to make good this deficit. This increased wage would be added to the operating expenses of the plant. The employer could hardly be expected to pay his assessment out of his profits. He would add his share to the operating expense account. So that the cost of production and the cost of the product to the consumer would be increased by the addition of whatever amount both the employees and the employers were compelled to pay and would ultimately be paid by the consumer, as an indirect tax as a part of the price of the commodity. The one-fifth contributed by the state could only be paid out of the state treasury through money secured by taxation of its citizens. The proposed plan, therefore, is not insurance at all, but is simply a plan for providing medical, surgical and hospital care in order to increase the industrial output of a portion of the population at the expense of the entire citizen body, through direct and indirect taxation.

In the second place, the proposed plan is not health insurance. It is a plan whereby the amount of time lost by employees through illness may be reduced to a minimum and the productive efficiency of each employee may be maintained at the maximum. The object is not the maintenance of health but the maintenance of productive efficiency. The plan proposed is neither a medical nor a public health proposition; it is purely an economic measure, intended to maintain the efficiency of the employee and the productiveness of the industrial plant at the highest possible point. The health features of it are secondary and incidental. The term, health insurance, therefore, is a misnomer. Instead of being called health or social insurance, it should be called taxation for the increase of industrial production.

In the third place, contrary to popular opinion, the proposed plan is not intended for the relief of poverty and unemployment. In England, which has probably the most elaborate system of poor relief laws of any country, the operation of the Poor laws has not been altered by the adoption of social insurance. The proposed plan only cares for those who are employed and who are drawing wages. Those unemployed at the time such a law would go into effect and those incapable of supporting themselves are in no way provided for under such a plan and must be cared for through voluntary philanthropy or by state charitable institutions as at present.

In the fourth place, it is unsuited to social, economic and political conditions in this country. It is undemocratic in that it divides the American people into two classes, viz., those who work and those who do not work. In European countries, classes are fixed and stationary. A man is born into a certain class and remains in it through life. If he is born into a wage earning family, he becomes a wage earner and remains so throughout life. In this country we have no such class distinctions. The employee of today is the employer of tomorrow and the member of the leisure class of the day after. He is not only able and willing, but eager to bear his own responsibilities, to assume the burden of his own mistakes and misfortunes and to reap the result of his own enterprise and energy.

Unwarranted Claims Regarding Health Insurance.

Two statements which have been repeatedly made regarding the proposed plan deserve specific mention at this point. The first is that health insurance is inevitable. This statement has been made repeatedly by the advocates of social insurance until it has come to be accepted even by doctors as axiomatic. Yet there is not the slightest basis for such an assumption. Such a plan can only be adopted if a majority of the people of the state or a majority of the members of the legislature of the state vote in favor of it. It is no more inevitable than is the adoption of any other proposed measure.

Another statement is that social insurance is the legitimate successor of workmen's compensation and that as laws on this subject have now been adopted by most of the states, the adoption of a social insurance bill in each one of these states is logically the next step. This statement shows a lack of discrimination regarding the underlying principles of the two propositions. Workmen's compensation laws are based on the general principal that an industry should bear all the expenses incident to carrying it on and that injury or impairment of the efficiency of employees is a legitimate charge on the industry just as is the wear and tear on machinery. Workmen's compensation laws simply substitute statutory enactment for judicial decision and a definite plan of adjustment for the individual action of a jury in each case. The two propositions have nothing in common.

Four Propositions Which Must Be Proven.

Accepting the plan for the sake of argument, however, and waiving these objections for the time being, when the plan is carefully analyzed and all the non-essential features eliminated, it is seen to rest on four propositions, all of which must be proven in order to establish a case. The claims of the advocates of this scheme are:

1. There is a disproportionate amount of sickness among employed persons causing financial loss, incapacity and poverty greater in proportion than that sustained by the average person and requiring special methods of relief. Until this is proven, there is no justification for special laws for employees.

2. The financial burden caused by sickness is heavier than the average employee is able to bear. Until this is proven, there is no reason to assume that he cannot carry his own burden.

3. Present methods of promoting public health and controlling disease are not adequate. Until this is proven, there is no need of devising any new plan.

4. Compulsory state supervised sickness insurance is the best remedy for this condition. Until this is proven, it is possible that some other remedy may be better.

As soon as the case is stated in this categorical form, it is at once seen that the burden of proving these four propositions lies with the advocates of social insurance. No one of the four propositions involved has been proved. Neither is there at present any conclusive evidence or any mass of statistics or data by which any one of them can be proven. It is not known and there is at present no way of knowing how much illness or incapacity exists, either among employed persons or among any other class of our population. It is not known and there is at present no way of knowing what is the average wage. It is not known and there is at present no means of knowing whether the burden of illness is or is not heavier than the average employee can bear without assistance. It is not known and there is at present no means of ascertain-ing whether existing agencies are adequate or not. Statements as to the number of persons sick in the United States at any one time, among wage earners or any other class, or among the population as a whole, are based entirely on estimates and not on proven facts. We do not even know how many deaths there are in the United States in any one year, and we have absolutely nothing except ex parte estimates as to the amount of illness. The registration area of the United States census, which includes those states and cities which have complete returns on deaths, included for 1919 only 79.7 per cent of our population. In the present stage of our knowledge of health conditions in this country, it is impossible to make any positive statements as to the amount of sickness, either among employees or any other class. The average amount of time lost each year through sickness on the part of wage earners is not known. Estimates on all these points differ widely, depending on which side of the question they are intended to prove.

Is Health Insurance the Best Remedy?

Of the four essential propositions on which the proposed plan rests, the first three cannot be determined owing to insufficient knowledge. But even if all three were conceded, the fourth point would still remain to be proven. The claim that health insurance is the best remedy is a pure assumption. Even if it could be shown that employees as a class are suffering from an undue share of illness, that the financial cost is greater than they can bear without assistance, and that present methods for remedying this situation are inadequate, it still remains to be proven that so-called health insurance is the best remedy. At least five alternatives besides compulsory state insurance must first be considered. These are:

1. An increase in the wages paid to employed persons so that each one will be in a financial position to bear his own burdens without need of assistance from the state. This is the economic remedy.

2. The development of state, municipal and local health agencies to a point where preventable disease will be reduced to a minimum and the burden lightened by reducing the amount of sickness. This is the public health remedy.

3. The development of voluntary thrift and savings habits among employees to a point where through increased thrift and foresight they may be able to provide for their own emergencies. This is the personal remedy.

4. The development of voluntary industrial insurance on the part of employees and employers in industrial corporations and groups. This is the cooperative industrial remedy.

5. The development on the part of wage earners and employees themselves of voluntary assessments and benefits through trades unions, benefit associations, etc., for their own protection. This is the cooperative social remedy.

All of these are possible alternatives to compulsory social insurance involving the development of existing methods. Naturally they must be given careful consideration before any new and untried scheme is considered. Just as the surgeon would naturally consider every alternative method of treatment for a condition before advising and performing a radical operation, so the possibility of the development of existing methods to the point where they will be adequate must be considered befor any new and untried method is adopted.

Increased Wages Eliminates Problem.

It is probable that this problem of economic loss to employed persons through illness, when it can be definitely defined and limited, will be solved by a combination of all of the five methods suggested rather than by any single one. In fact, the first alternative as stated above has well-night eliminated the problem. Since 1914, when the agitation for compulsory social insurance in this country began, the increase in wages has practically taken the American working man out of the field of compulsory social insurance as proposed at that time. When this plan was first proposed, the American Association for Labor Legislation evidently felt that it was making a large concession to different conditions in this country when it fixed the maximum limit at 50 per cent higher than the British law, or $100 a month. Yet today how many American working men are there whose gross annual income is below this amount? Figures on this subject are so numerous and popular knowledge so general that it is hardly necessary to argue the point.

Case for Insurance "Not Proven."

If the arguments which I have endeavored to develop are sound, then it must be admitted that the advocates of health insurance have failed to make out a case for their proposal. The burden of proof is on the proponents of the plan. It has not been shown that so-called health insurance is needed, that it would be any improvement over present conditions or that it is the best remedy for existing conditions. Until convincing and conclusive evidence on these essential points can be produced, backed up with statistics of a sufficiently broad scope to be acceptable as proof, the decision as to the value and desirability of the proposed plan must be the Scotch verdict of "not proven."

The Attitude of Physicians.

What should be the attitude of the medical profession on this subject? In order to answer this question, it is necessary to consider it from the standpoint of the public rather than from the standpoint of physicians. The proposed plan as we have seen is a question of public policy and not a medical problem. It is going to be settled by the people either directly or through their legislatures and not by the medical profession. The American people are the jury in this case. We must, therefore, consider the subject from their point of view.

The Position of the American Medical Association.

The attitude of the organized medical profession has been definitely and officially determined. The American Medical Association at the New Orleans session last month adopted by a practically unanimous vote a resolution declaring its opposition to any plan of compulsory, contributory insurance against health or any other plan of compulsory insurance provided, controlled or regulated by any state or the federal government. A number of state associations have adopted similar resolutions. The attitude of the organized medical profession as determined by its duly elected representatives is, therefore, unqualified opposition to compulsory state health insurance.

Need of a Substitute.

But it is claimed by the advocates of this plan that it is really a public health measure of the greatest importance, and that its adoption will result in improved health conditions and increased efficiency. Shall the medical profession which has for the last fifty years led in the development of public health, take an attitude of opposition and obstruction rather than of advancement and construction? Such a policy would be contrary to the traditions and instincts of our profession. It would furthermore be a relinquishment of our leadership in public health. Nor is it necessary for us to adopt any such attitude. If the arguments and reasoning which I have endeavored to present are sound then the attitude of the American medical profession on this question is clear. We have shown that so-called compulsory health insurance is not a public health measure. Yet a considerable share of the support that it is receiving is due to the honest belief on the part of many of its supporters that it is a measure for the improvement of public health conditions and to this extent it must be regarded as a part of the popular movement for health conservation. So that while it is our duty, as the leaders and advisers of the people on health matters, to oppose this plan because we have no reason to believe that it will accomplish the good which its supporters anticipate, it is equally our duty to point out the true line of progress and to utilize the energy now being expended in the wrong direction by turning it in the right direction. If we are going to oppose health insurance and prevent its adoption, as we surely can if we place the facts before the public, we must, in order to keep faith with the public, be prepared to present an alternative proposition which will accomplish all the good claimed for social insurance without any of its defects.

Best Remedy Not Yet Known.

In the last fifty years, scientific medicine has made greater progress than in any preceding 500 years. Yet our methods of practice as far as the economic side of medicine is concerned remain unchanged. Every one admits that there must be readjustment in the methods of medical service. Health insurance is only one of many solutions proposed. Which is the best? We do not know. We do not have the essential facts on which to base an opinion. As scientific men, we must investigate and then arrange and study all the facts before we can form an opinion. This is the true scientific method.

Need of More Knowledge.

The fatal defect of social insurance so far as this country is concerned is that it provides for a part rather than for the whole. The principal defect in the argument of its proponents is that there are no data available on which to base a sound argument. This situation is one which has always confronted the advocates of public health legislation. We have not known in the past nor do we know today the physical, economic and social conditions existing in the various states, which affect the health and the efficiency of our people. Our entire public health program which has been built up in the last fifty years, while based on the best available information, has been hampered and delayed by lack of definite, positive knowledge regarding the prevalence of disease and the physical condition of our people. This fatal defect in the argument for social insurance has also been the greatest obstacle in the development of effective and adequate public health organization and administration. The rational, sensible plan to follow in creating and developing a health administrative body, whether federal, state or municipal, would be first to inquire as to the need and the amount of work to be done and then plan the machine in accordance with the work to be accomplished. This is the practical, businesslike method of procedure which must instantly commend itself to everyone. Yet it has in no instance been followed in the development of public health in this country. A lack of definite, accurate and reliable information is today the chief obstacle in the way of the reorganization of our federal public health activities and in the development to their highest efficiency of all of our state and municipal health organizations. The agitation for the passage of so-called health insurance laws in the different states gives us an unusual and unprecedented opportunity to impress on the public and the legislatures the lack of positive knowledge on physical and social conditions, the importance of developing our state public health activities along rational lines and to the fullest extent and the absolute necessity of securing complete information regarding health questions as a basis for such reorganization.

What We Can Say to Legislatures.

To the legislators and the public of those states in which bills for compulsory state health insurance may be introduced, the medical profession may say, "We recognize the plan proposed in this bill as an effort on the part of its advocates to improve health conditions. The plan proposed, however, is not in reality a health measure and is not suitable for this country in that it affects only a portion of our population and is based on class distinctions that are undesirable in this country and not in harmony with our institutions. It provides only for wage earners of a certain class and is, therefore, undemocratic and unwise. The plan is further objectionable because it seeks to develop public health administration through a new and independent body rather than through the recognized and legally constituted health authorities of the state. It is not possible for the advocates of this measure to prove their claims owing to the lack of definite knowledge regarding the sanitary, social and economic conditions which are affecting the health of our people. This ignorance on questions of the utmost importance to our people is also an obstacle in the development of our state health activities. The medical profession is deeply interested, as it always has been, not only in the health of the wage earner, but also in the health, well-being and efficiency of every man, woman and child in the state. It is the duty of the state to protect every man from disease, whether he be employee or employer, wage earner or factory owner, millionaire or pauper, and to enable him to secure and retain to the utmost good health, efficiency and long life. But such state public health work should be for the benefit of every citizen and not for any class. It should be in the form of united action by the people of the state for self-betterment rather than in the form of pauperizing subsidies and emasculating sick benefits. It should be carried on through the legally constituted health authorities of the state and not through a board of representatives of special classes. It should be based on the fullest and most complete knowledge obtainable regarding existing conditions in this state and their bearing on the present physical condition of every man, woman and child therein. As scientific medical men we demand that any measures for the improvement of our citizens be based on proven facts and not on unproven theories. We, therefore, ask that, instead of adopting this incomplete, undemocratic and ineffective measure, the state legislature appropriate a sufficient amount of money to enable the state board of health to make a complete and exhaustive study of the entire state, showing the amount of sickness existing among our people, the causes therefore, as fully as it may be possible to determine, the social, economic and industrial conditions existing in the state and their influence on the health of the people, together with any other facts which may be pertinent and to submit a report at the next session of the legislature showing the exact conditions existing, together with recommendations as to how the existing health organization of this state may be increased and developed to a point where every citizen of the state, regardless of his economic condition or industrial status, may be protected from disease and may enjoy the highest possible degree of good health, efficiency, happiness and long life."

Effect of Intravenous Injections of Calcium in Tetany and Influence of Cod Liver Oil and Phosphorus in Retention of Calcium in the Blood.

Amer. Jour. Dis. Chil., Vol. 19, No. 6, June, 1920.
Alan Brown, Ida F. MacLachlan and Roy Simpson,
Toronto, Canada.

The authors believe that tetany is a manifestation of rickets and assert that they have seen no cases of tetany without clinical manifestations of rickets.

Their observations are based on fourteen cases of frank tetany all showing varying degrees of rickets. The following conclusions were reached, namely:

1. The calcium content of blood in normal infants under 1 year of age, using Lyman's method on 5 cc. of blood, averaged 9.5 mg. per 100 cc. of blood.
2. Intravenous injection of calcium lactate in 1.25 gm. doses produces a reaction varying from moderate drowsiness to almost complete collapse. The mechanical and electrical signs of tetany usually disappear for a period of from seven to ten hours and then all reappear.
3. Administration of cod liver oil and phosphorus produces an increase in blood calcium with a corresponding reduction in mechanical and electrical signs within a period of from ten to seventeen days. The reduction of tetanoid symptoms is more rapid when intravenous injection of calcium lactate is used in conjunction with the administration of the cod liver oil and phosphorus.
4. In nine of the cases in which the calcium of blood was estimated a definite decrease was found during the tetany and the increase in the calcium content of blood coincided with the improvement in clinical symptoms.

C. M.

Nitrogenous and Sugar Content of Newborn.

Am. Jour. Dis. Chil., Vol. 19, No. 6, June, 1920.
J. P. Sedgwick and Mildred R. Ziegler,
Univ. of Minnesota.

The authors studied the blood in order to establish the normal for newborn infants and note the change with increasing age.

The blood was collected from the superior longitudinal sinus of the newborn in a glass syringe just before a 10:00 a. m. nursing period. 10 cc. expelled in a bottle containing 20 mg. potassium oxalate dried in a thin film over bottom and sides.

The system of Folin was used for analyses. They conclude that the blood of the normal newborn shows that values for creatin plus creatinin and non protein nitrogen are high during first few days of life corresponding with high values for uric acid during this period.

The creatinin and sugar values are essentially the same as the normal value for adults and the urea nitrogen is near the maximum normal value for adults.

The normal value in adults for non protein nitrogen is 25 to 35 mg. per 100 cc. of blood; urea nitrogen, 12 to 15 mg. per 100 cc.; creatinin 1 to 3 mg. per 100 cc.; creatinin plus creatin—6 mg. per 100 cc. and sugar—.08 to .12 percent.

For 3-day infant:

Non-protein N.	53.7 mg.
Urea N.	16.8 mg.
Creatinin	1.7 mg.
Creatin plus creatinin	8.0 mg.
SUGAR percent	.07 mg.

C. M.

New Orleans.

The Annals of the American Academy of Political and Social Science set forth that, in ten years—

New Orleans has destroyed 250,000 open cisterns; rat-roofed 150,000 buildings; built five miles of steel-covered wharves; built the world's largest cotton warehouse and terminal, capacity 425,000 bales, annual handling capacity 2,000,000 bales; built the world's most efficient grain elevator, capacity 2,250,000 bushels, handling capacity 96,000 bushels an hour; built and equipped a complete municipal railroad, serving all railroads entering the city, all wharves, all landings, warehouses, and industries; and installed a complete modern system of drainage, sewerage, and water supply.

Butcher: "This pound of butter you sent me is three ounces short."

Grocer: "Well, I mislaid the pound weight, so I weighed it by the pound of chops you sent me yesterday."

The suffering of the world has its chief root in selfishness, which is a poisonous plant that kills in both directions. Its outward blossoming destroys all the happiness it touches, its inward growth destroys every fine and noble quality in the soul that furnishes it soil.

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General Gorgas Passes Away.

One of the foremost medical men of the age, Major General William C. Gorgas, former Surgeon General of the United States Army, died in Queen Alexandria Hospital, London, July 4th, 1920. Dr. Gorgas was born in Mobile in 1854. Was graduated from the University of the South in 1875. Was appointed a surgeon in the army in 1880, and served in the army medical department continuously until he was retired as Surgeon General on account of the age limit.

He banished yellow fever from Havana and by his great sanitary work made possible the construction of the Panama Canal. He was recognized as one of the foremost sanitarians of his time. During the past winter he was made Director General of Sanitation by the Peruvian Government and had recently returned from South America and was on his way to South Africa on a similar mission when stricken. He was decorated by various foreign governments. His death was due to cerebral hemorrhage and chronic nephritis.

Character, rather than personality and commanding leadership signalized his pathway to success. He was ever alert to counsel and made friends with associates whom he trusted and who were loyal to him.

A faithful worker and friend to humanity has dropped out of our ranks and been laid to rest until the second call to service reveals him as a glorified servant.

Review and Preview.

Empires which for centuries held together the people of many nationalities, controlled by laws based upon false political sophistries, are now pleading for people of wealth in the United States of America to buy and occupy their palaces and imperial domains, that food may be had to sustain the life of their once haughty rulers. The defeated countries in the World War initiated and propagated the educational and economic activities that culminated in their humiliation and impoverishment. Nations like individuals stand or fall in accord with the lives they live. Forces from within determine the goal their history records. "As a man thinketh in his heart, so is he." He utilizes intellect, mental training, the power of material wealth and social position to possess that desire. Education of the intellect is not a synonym of wisdom. The record of Solomon has many parallels in history. Our present unrest in the economic, social and moral life of the world is a corollary to the World War. We are in our old environment, but have been suddenly subjected to conditions wholly different from anything in our previous experience. Just how to adjust ourselves requires sane thinking and wisdom in establishing and propagating educational methods based on service. Selfishness initiated and promulgated the teachings that precipitated the material prodigality, destruction of life and instability in the mental and nervous poise now evidenced by vagaries of individual, state and national propaganda.

The purpose and teachings of the medical profession are the conservation of bodily and mental health. Throughout the recent war our service was sought for preventing disease and healing the sick and wounded. Thirty-three per cent of the qualified physicians in our state were enrolled in the M. R. C. service. Our training in civil practice directed by a spirit of giving unselfish work wherever service was needed, evidenced to the Government our qualifications for sane leadership in preventing destructive tendencies irrespective of their cause. Our minds were fixed on the various bodily and mental disorders incident to war conditions which were then most important; but the time is here for us to think sanely and plan wisely lest business and social conditions of present peace times develop even greater dangers than the war produced. The physical and intellectual energy exerted to increase the financial possessions of the individual, often overshadows our "Safety First" slogan, with overwork and nervous prostration as the sequence.

By the wisdom of those who planned and put in force our county, state and national organization, we have the machinery for coordinating and making more effective, our service to the social and moral improvement of mankind. Our county society is the unit that holds the strategic advantage for real leadership, because its members are in immediate contact with the first stage in the development of every form of bodily and mental disorder. It is our function to see and check any foe against health. In the July Journal we printed suggestions on the federation of county societies as outlined in our Constitution and By-Laws. Putting that scheme into practice will inspire its promoters to the exercise of their real influence as physicians. It places the duty delegated to each county society member squarely on him, and treats him as if he was expected to measure up and succeed in his task. Each Councilor is specifically authorized to lead in organizing county societies and reporting the condition of the profession in his district, to the House of Delegates. The Council as a body should crystalize the work from their several districts for discussion and action by the delegate body of the State Association, when in legislative session. The state and national organizations appreciate that dissimilar conditions exist among the several counties in the state; that the expressed wish of any one county may fail of approval by a majority of the counties represented in the councilor, state or national legislative bodies. That fact does not, however, signify the uselessness of councilor, state or national organization. These are the fruitage of potential force in the county medical societies made possible by their action, and whose efforts the delegate bodies appreciate, and labor to support. The first step toward getting effective service in any work is to accord to those responsible for initiating the work, the credit due to the importance of their opportunity. In this case the family physician is preeminently the man who is in close touch with the people. Considering our record, appreciating the relation we sustain to the public, our qualifications by education, and the facilities afforded by our federated medical organization, we will not fail in measuring up to the task expected of us.

The Editor of the State Medical Journal:

A campaign is on to increase the membership in the Association of Military Surgeons of the United States, and I have been requested by Col. James Robb Church, the editor of its Journal, The Miliary Surgeon, to call attention to the desirability of our membership in this organization, of which I have for many years been a member. Any physician or surgeon in good standing, who has held, or holds a commission in the National Army or National Guard, is eligible to membership. Let me say in passing, without any intentional reflection on any other of the organizations in which I hold membership, I regard that in the Association of Military Surgeons not the least honorable or desirable, both professionally and socially, and its publication, The Military Surgeon, freer from time-wasting and self-advertising articles than any other periodical which reaches my desk. The original articles are written by highly educated, experienced men, chiefly upon subjects that apply to every day practice in medicine and surgery, and the lessons of war which may be applicable to civil practice. Military surgery occupies a reasonable space but is not predominant. Besides these the other features of the Journal, editorial, "Comments and Criticisms," description of instruments and appliances, book reviews, news information, etc., are well worth while. The writer will be more than pleased to furnish any applicant for membership with a blank form of application; he has a few numbers of the Journal and would be pleased to forward one to an applicant. —John E. Summers.

Abstract American Journal Medical Science
May, 1920.

The literature in the past year has been filled with a discussion of the problem of Neurocirculatory Asthenia. Nothing definite regarding the pathogenesis of this interesting condition has been determined except that the individual suffering from it is of the neurotic or sub-standard type.

It was thought by Musser, Jr., that inasmuch as many of the symptoms are vagus symptoms a study of the gastric secretions might determine, 1st, the degree of vagus irritability in these cases, and, 2nd, might add clinical evidence which would help to definitely determine the diagnosis in this condition which at best represents only a group of symptoms.

With this purpose in mind Musser Jr. did fractional gastric analyses in eleven typical cases of N. C. A. in soldiers with eleven normal soldiers as controls, and found a very definite increase in the free and total acids as compared with the controls.

He concludes that this is a very definite diagnostic point for use in determining the disorder in questionable cases and that one of the manifestations of the neurosis of which these patients are suffering is a definite hyper-irritability of the vagus. —F. M. C.

Current Comment.

We recommend to our readers among the busy men in general practice a careful reading and thoughtful study of an article on "Insufficiency of Convergence of the Visual Axes", by John M. Banister, M. D., Omaha, published in the American Journal of Ophthalmology, Vol. III, No. 4, April, 1920. His thesis is maintained by argument which at times is quite technical, yet presents an array of symptoms, among which are certain quite common symptoms of very positive value in pointing to an ascertainable cause. The test he suggests for collecting evidence from the mass of testimony offered by the patient, is easily applied, but of great diagnostic importance to the examiner. The simplicity of method necessary to procure this clinical testimony while easily applied, yet has a highly scientific value as it serves to show whether or not the hypothetical centre of convergence in the brain cortex is supplying the proper innervation impulse to the ocular muscles controlling convergence of the visual axes. —J. M. A.

Correspondence.

To the Editor—Medical missionaries introduced vaccination into Siam more than half a century ago to the saving of thousands of lives. Some fifteen years ago I established a vaccine laboratory here making fine fresh vaccine, using 40 or 50 calves a year. My staff of vaccinators of about 150 Christian men whom I trained took this vaccine out over a very wide area to the people in distant villages. During ten years several hundred thousand people were vaccinated with lymph from this mission vaccine laboratory. As a result of some fifty years of vaccination work by the Missionaries, the Government saw the advantage and the necessity of general vaccination. Now there is a compulsory vaccination law and the Government is doing all this work much to our satisfaction. Our vaccine work is closed, great to our relief. Of course it is proper government work. But the missionary brought this great boon of vaccination to Siam.

We hope and believe that the same result will follow in the case of the leper work. Ours is the only asylum or effort in the Kingdom on behalf of the many thousand lepers of the land. Government officials and even the king himself has taken cognizance of the Mission leper Asylum.

On our return from the U. S. A. in 1917, we made an extended tour of leper asylums in Japan, Korea, China and the Philippines. On our arrival in Siam, His Majesty the King graciously granted me an audience that I might bring him a report of the tour and tell him what is being done in other lands with the problem of leprosy. His Majesty was pleased and expressed his interest in our Asylum. Later he sent Ten Thousand Ticals ($3,700 Gold) as a grant in aid.

Still later His Majesty ordered a leper census to be made, a wholly new departure for Siam. This census indicates that there are more than ten thousand lepers in the Kingdom. I am of the opinion that the Government will one day take up in earnest the segregation of the leper and that we shall see, as in the case of vaccination, a hearty acceptance of the plans inaugurated by the Mission. This is bound to come. What a boon to the ten thousand lepers of Siam and to the country at large and particularly to the family and friends of the leper who will rejoice to see him properly cared for.

—Dr. James W. McKean.

Correspondence.

To The Editor—Dr. E. T. Manning of Omaha in his article in this paper on "Report of 5000 Wassermann Tests" made some observations that are worthy of consideration. He points out in his technic one test for syphilis, that is, the patient's serum is inactivated by heating in water bath to 56 degrees c. for one-half hour before testing. Dr. Manning and the laboratories mentioned in his article worked only with a heated serum, in other words the removal of native complement from the serum. He does not mention a trial with uninactivated serum, as used by Gradewohl, St. Louis in his "Hecht Weinberg Gradewohl" Test for Syphilis.

This Laboratory used constantly in addition to the Wassermann - Noguchi modification, for a "check up" the Hecht Weinberg Gradewohl Test in the manner as you find on this table:

Hecht Weinberg Gradewohl.

1. Titration for unit of natural sheep amboceptor. Using the native complement and sheep amboceptor contained in the uninactivated serum.

2. Set up seven tubes in rack, first five for titration, last two for test. As follows:

	TITRATION					TEST	
Tubes	1	2	3	4	5	6	7
Serum	.1cc	.1cc	.1cc	.1cc	.1cc	.1cc	.1cc
Phys. Salt	1.cc	.9cc	.8cc	.7cc	.6cc	.1cc	.3cc

	TITRATION					TEST	
Tubes	1	2	3	4	5	6	7
Cells (%)	.1cc	.2cc	.3cc	.4cc	.5cc		
Antigen (Acetone insol. 1-100)						.2cc	

3. Incubate the above, for one-half hour at 37.5° centrigrade, and the tube showing complete hemolysis is noted. If one of the first four tubes is hemolized the unit will be .1cc of the sheep cell suspension. If one of the tubes from five to eight inclusively the unit will be .15cc. If from nine to twelve, the unit will be .2cc. When the unit is determined add necessary amount of cells to tubes six and seven, shake well and put in incubator for one-half hour. Read as in the regular Wassermann test; tube six being the test and tube seven the control.

4. In the titration above only five tubes are used but in paragraph 3 the reading is given for as many as twelve tubes. We find that rarely does complete hemolysis take place above the fifth tube.

The particular advantage of the Gradewohl test, is the fact that we are dealing with unheated serum, thus avoiding the chance of development of complementoid substances. Whereas in a Wassermann test including the Noguchi Modification heating the blood serum not only destroys the complement but also part of the syphilitic anti-body or substances responsible for complement fixation. If this is true in the presence of a small amount of this substance the performance of a Wassermann test with inactivated serum most surely will tend to produce a negative result.

In an investigation started in this laboratory we have run the Hecht Weinberg Gradewohl method paralell with a modified Wassermann test and modified Noguchi test and find that the claims of increased delicacy are justified. "It shows positive reaction before the other."

In many cases under treatment, where the modified Wassermann test and modified Noguchi test have become negative the Hecht Weinberg Gradewohl test still shows a positive reaction, but the most important of all, it shows relapses long before either of the other two methods; so that many syphilologists have learned to depend upon it, as a much truer index of treatment and work for recommendation.

—Bert Bahr, Pathologist.

St. Francis Hospital, Grand Island, Neb.

GENERAL NOTES.

Dr. Nicholas M. Alter, formerly in charge of the pathological laboratories of the Howard A. Kelly Hospital, has located in Omaha in charge of the Physicians and Surgeons Laboratory.

The Bethphage Mission of Axtell, Neb., recently dedicated Emmaus, their new building for men. This Mission is a Christian home for epileptics, feeble minded or otherwise destitute people.

A collection of portraits and engravings of famous medical men and medical subjects, reported to be the second best in the country, has arrived at the University of Nebraska, College of Medicine.

The United States Civil Service Commission announces open competitive examinations for medical interne, bacteriologist and junior bacteriologist. In the absence of further notice applications for these examinations will be received by the Commission at Washington, D. C., until October 1, 1920.

A nation-wide campaign has been inaugurated for the treatment and education of children who are deaf or dumb or both. Assistance of state medical societies, state boards of health and from congress will be sought in order that the campaign may be made quickly effective. It is planned to list all children suffering from defective oral or auditory organs, to establish day schools throughout the country for the instruction of these special pupils and, finally, to standardize the course of instruction, according to the most modern methods.

ABOUT THE DOCTOR.

Dr. E. A. McCabe, a Ponca boy, has located in Emerson.

Dr. E. P. Murdock has moved from Ogallala to Julesburg.

Dr. D. A. Foote of Omaha has returned from California.

The Lynch Hospital is to be enlarged by adding a third story.

Dr. J. S. Alexander, Omaha, lost his wife by death, July 10th.

Dr. F. B. Slusser, Polk, suffered a dislocation of the hip recently.

Dr. F. P. Murphy, formerly of Dawson, Neb., has moved to Omaha.

Dr. F. H. Kinyoun of Snyder was a recent caller at the Journal office.

Dr. C. S. McKee has been appointed pension surgeon at Geneva, Neb.

Dr. W. L. Sucha of Omaha was a recent caller in the Journal office.

Dr. W. H. Crawford of Rushville is in Omaha doing post-graduate work.

Dr. G. F. Bartholomew, formerly of Broken Bow, has located in Rushville.

Dr. P. H. Salter and family of Norfolk spent two weeks in Minnesota in July.

Dr. H. M. Fitzgibbon of Omaha has returned from a short visit in Chicago.

Dr. Max Block of Omaha has moved his offices to 703 Brandeis Store building.

Dr. Herman Hirschman spent three weeks in July in New York and Atlantic City.

Dr. and Mrs. I. S. Cutter of Omaha spent two weeks at Lake Okoboji in July.

Dr. John S. Twinem and family of North Platte are visiting in Long Beach, Calif.

Dr. M. U. Thomas has been appointed pension surgeon at Weeping Water, Neb.

Dr. A. S. Rubnitz of Omaha has moved his offices to 526 World-Herald building.

Dr. C. H. Fenstermaker of Sargent has reopened the hospital he formerly conducted there.

Dr. H. G. Morris and family, Creston, have been visiting the doctor's parents in California.

Dr. A. A. Johnson of Omaha has returned from a visit among his friends in Athens, Ohio.

Dr. and Mrs. D. S. Woodard of Aurora, returned from a sojourn of some months in California.

Dr. and Mrs. B. F. Bailey of Lincoln are spending the month of August on the Pacific Coast.

Dr. J. A. Henske motored to Lake Okoboji for a two weeks outing with Mrs. Henske and family.

Dr. Edward Tanner of Battle Creek suffered the loss of his wife after a prolonged illness, July 15th.

Dr. LeRoy Crummer and mother are spending a month at Saranac Lake in the Adriondack mountains.

Dr. E. L. Brush of Norfolk and Dr. Frank Salter of Pierce have returned from a fishing trip at Lake Andes.

Dr. F. M. Heacock of Ralston has succeeded Dr. J. J. Kiefer at Bancroft. Dr. Kiefer has moved to Denver .

Dr. W. S. Love, an aged physician of Wilbur, already physically ill, fell down stairs and broke two ribs.

Dr. C. P. Charlton, Palmyra, was tendered a governmental position in the far away island of Java, but declined.

Dr. and Mrs. E. A. Van Fleet and daughter of Omaha are spending July and August in Long Beach, Calif.

Dr. Delmar L. Davis of Omaha has returned to civilian practice after two and a half years of military service.

Dr. Adda Wiley Ralston of Omaha has returned from a month's visit in Detroit, Mich., and other eastern points.

Dr. F. A. Long and wife of Madison motored to Madison, Wis., and Watseka, Ill., in July to visit their daughters.

Dr. E. R. Hays, Falls City, has returned from a vacation trip to California, and the democratic national convention.

Dr. H. W. Orr of Lincoln went to Norfolk to attend the Midsummer meeting of the Elkhorn Valley Medical Society.

Dr. I. C. Munger of Lincoln, who has been under the surgeon's care for about four months, has resumed his practice.

Dr. B. F. Bailey of Lincoln was in Omaha recently to attend a meeting of the Nebraska Tercentenary Committee.

Dr. H. M. McClanahan of Omaha has returned from a two weeks outing with his family in their cottage at Lake Okoboji.

Dr. D. C. Dodds, formerly of Pawnee City, now of Albuquerque, has been appointed a member of the New Mexico State Board of Health.

Dr. and Mrs. Ed M. Robertson and sons of Concordia, Kan., recently visited Dr. Robertson's mother, Mrs. John A. Dempster of Omaha.

The name of the New Twinem Hospital at North Platte, recently purchased by Dr. E. W. Fetter, has been changed to The Platte Valley Hospital.

By a decree of the Supreme Court, Dr. A. L. Bartlett of Spalding, won in a suit against Wheeler County for services rendered in a small pox epidemic.

Press reports indicate that a good many physicians throughout the state are motoring with their families to the mountains, to the lakes and other points.

Dr. Leroy T. Petersen, formerly of Humbolt, recently returned from a year's sojourn at Monrovia, Calif., for his health, with a net gain in weight of 62 pounds.

The July Journal incorrectly stated that the Plainview General Hospital had been acquired by Dr. Nye. This hospital is still under the management of Dr. H. Melerian.

Dr. C. A. Hull of Omaha accompanied Mrs. Hull to New York, where she embarked for France to remain until November in Paris studying the Yersin method of teaching French.

Dr. W. F. Wild, formerly State Health Commissioner, has been appointed to a like position in the state of Mississippi. With his wife he recently visited several points in Nebraska. Since leaving Nebraska he has been living in Boston.

Dr. J. F. Percy, Galesburg, Ill., whose work in the treatment of inoperable cancer, by low temperature heat cauterization is generally known to readers of medical literature, is since his return from army service, preparing the manuscript for publication of a book on his cancer work.

The following doctors from Omaha attended the Elkhorn Valley Medical Society meeting in Norfolk on July 8th: Drs. W. M. Anderson, Sanford Gifford, A. P. Overgaard, Newell Jones, C. H. Ballard, A. J. Brown, H. B. Lemere, A. C. Stokes, G. B. Potter, R. D. Schrock, W. C. Maxwell and W. E. Wolcott.

Dr. C. J. Miller of Ord has completed the construction of his new hospital which is to be known as the Ord hospital. It is a modern three story and basement brick building and contains the offices of Dr. Miller as well as the largest size Kelly-Koett X-ray equipment. It has a maximum capacity of twenty-five patients.

The conviction of Dr. Julius Hammer of New York for manslaughter in the first degree for having performed a curettage on a woman, which resulted in her death, has called forth protests from Bronx physicians. A petition signed by 400 physicians and surgeons has been presented to the Bronx County Court asking for clemency for Dr. Hammer. This action is said to be a forerunner of a movement to appeal to the legislature to amend the penal law so as to make it possible for a physician to perform an operation of this kind to protect the life or health of a patient without fear of spending twenty years in prison. Physicians state that in the present case the operation performed by Dr. Hammer was justifiable and object to having "a jury of laymen pass judgment on the acts of reputable doctors."

SOCIETY NOTES.

The regular monthly meeting of the Richardson County Medical Society was held on August 4th in Falls City.

The Scottsbluff County Medical Society and Midwest Physicians Club gave their annual picnic at Agate Springs, July 17th.

The annual meeting of the Medical Society of the Missouri Valley will be held in Omaha Sept. 6-7, 1920, at the Fontenelle Hotel.

The annual assembly of the Tri-State Medical Society, including, Iowa, Illinois and Wisconsin, is called to meet at Waterloo, Iowa, October 4-7, 1920. Physicians of Nebraska who are in good standing in their State Association are cordially invited to attend the meeting, and participate in the program. Entertainment will be furnished for the doctors and their ladies. A large number of essays and discussions will be furnished by prominent physicians from all over the United States.

At a recent meeting of the Northwestern Nebraska Medical Society, held in Long Pine, the members changed its name to the Northwestern Nebraska District Association, for affiliation as the 8th Councilor District with the Nebraska State Medical Association. The officers elected were: Dr. Wm. Ely, Ainsworth, president; Dr. Wm. Douglas, Atkinson, vice-president, and Dr. James M. Tische, Wood Lake, secretary-treasurer. Their request for copies of the Nebraska State Medical Association Constitution and By-Laws with application blanks for a score or more new members, was promptly complied with. May other Councilor Districts do likewise.

The Midsummer Meeting of the Elkhorn Valley Medical Society was held at the Country Club, Norfolk, Neb. Meeting called to order at 10 a. m. The following are the papers presented:

Dr. H. W. Orr of Lincoln, Operative Treatment of Fractures (with lantern slides).

Tuberculosis in Children as a Family Disease, Dr. Newell Jones, Omaha.

Diagnosis of Pulmonary Tuberculosis, Illustrated with lantern slides, Dr. Wm. N. Anderson, Omaha.

Cholocystectomy for Gall Bladder Disease, Dr. Alfred J. Brown, Omaha.

Demonstration of X-ray Plates of Sphenoid; with Report of Autopsy in Obscure Non-Operation Case, Dr. H. B. Lemere, Omaha.

Report of Two Cases of Intestinal Lipoma; with Specimens and Patient, Dr. S. A. Campbell, Norfolk.

Encephalitis Lethargicus, Dr. Frank X. Rudloff, Norfolk.

Presentation of a Case of Enlargement of the Spleen, Dr. R. H. Foster, Norfolk.

Diagnosis and Treatment of Weak and Flat Feet, Dr. W. E. Wolcott, Omaha.

There was a good attendance and a very interesting and enjoyable program. The local committee arranged for golf and tennis for the visitors.

The University of Nebraska Hospital and Medical College as a Post-Graduate School.

The University of Nebraska College of Medicine and Hospital at Omaha announced a Post-graduate Clinical Course June 7th to 12th inclusive and in response to this announcement came twenty-seven physicians from different parts of the state. It might be well to mention the fact, scarcely known to physicians over the state, that we have one of the finest and best equipped institutions in America. The University Hospital is ideally located, its structure and architectural beauty is second to none. The Operating Suites, X-ray and Clinical Laboratories, Obstetrical and Pediatric Departments, Commodious Amphitheatre and large airy wards filled with patients, provide clinical facilities one would be quite surprised to find here at home. In addition to this an immense library open at all times for study. The Clinics and Dispensary furnish an abundance of material.

While mentioning the facilities of the Hospital it is only fair to say that the physicians who arranged the program spared no time or effort to give the class everything that could be desired.

This week of instruction being an experiment as a post-graduate course in Nebraska, the program was arranged according to the desires of the members of the class. It goes without saying that when the teachers in charge can keep a class's time occupied from 8 a. m. until 9 p. m., with only one hour intermission for meals, there is a wealth of learning stored away for just this kind of an emergency.

On the evening of June 11th, at an informal dinner arranged by Dr. Cutter for the instructors and members of the class, the advisability of a course for next year was discussed. It was the unanimous opinion that at least a two weeks' course should be given and at this time "The Physicians Post-Graduate Association of the University of Nebraska' was organized. The object of the association is the advancement of medical and surgical knowledge by means of post-graduate study.

Membership in the association may be had by enrollment at one of the regular courses and payment of annual dues of $1.00.

The character of future programs will be determined by the members of the association.

The present association is composed of the following charter members.

Dr. W. Ackley, Juniata; Dr. A. W. Anderson, Bancroft; Dr. G. A. Birdsall, Fairbury; Dr. A. A. Bald, Platte Center; Dr. E. S. Case, Curtis; Dr. L. W. Elwood, Surprise; Dr. E. B. Evans, Omaha; Dr. R. H. Farrell, Creighton; Dr. R. C. Gramlich, Walthill; Dr. C. L. Hustead, Falls City; Dr. E. E. Hewitt, Ainsworth; Dr. M. L. Koser, Nebraska City; Dr. N. H. Lewis, Benkleman; Dr. J. C. Miller, Garrison; Dr. O. H. Magaret, Papillion; Dr. Clarence Minnick, Curtis; Dr. S. E. Overmass, Gordon; Dr. Chas. Rosewater, Omaha; Dr. C. W. Sherfey, Lincoln; Dr. P. A. Sundbury, Holdrege; Dr. L. W. Wusthoff, Madison; Dr. C. W. Way, Wahoo; Dr. E. I. Whitehead, Holdrege; Dr. C. L. Wills, Madison; Dr. A. R. Downing, Merna.

Officers elected for ensuing year: Dr. L. W. Wusthoff, President; Dean I. S. Cutter, honorary vice-president; Dr. C. L. Hustead, Secretary and Treasurer.

The next regular course will be given in June, 1921.

(Signed) C. L. Hustead, M. D., Secretary.

Report of the Chiengmai Siam Leper Asylum for the Year Ending Oct. 31, 1919.

This has been a good year in the Leper Asylum. Indeed in all its eleven years of experience, it never has known a bad year. God's favor seems to have rested upon this institution from its inception until the present day.

We wish to begin this resume of the year with an expression of deep gratitude to God for the numberless blessings both temporal and spiritual that He has bestowed upon this work.

The Mission to Lepers has given most generous and cordial support to the Asylum during all its years. Indeed, humanly speaking we live because this Mission supports us; supports us not only with funds, but with valuable counsel and encouragement. To the Mission to Lepers and to all its friends and supporters in Great Britain, Canada and the United States, we desire to express our hearty thanks.

Although we have received 32 lepers since our last report yet our total number at the close of the year, 211, is but 3 in advance of last year's total. Of these 211 persons 159 are men and 52 are women. Many of these poor people come to us in their last extremity of want and disease. They always find a welcome, not only from the management, but also from their fellow lepers, all of whom are Christian and most of whom have come to the Asylum to find a blessed relief from bitter experiences.

Of course those who come in such a state show a very high rate of mortality. We are most grateful to record that nearly all of these, even though their days with us are few, profess to accept Christ as their Saviour.

Owing to war conditions and other causes we began the year with a debt of about Eight Thousand Ticals. Our need was presented to His Excellency Chao Phya Surasih, Minister of the Interior, who kindly presented the case to His Majesty's Government. The response was a grant of Ten Thousand Ticals ($3,700 Gold). We place a high estimate upon this generous gift, not only for its intrinsic value, but also as an expression of His Majesty's appreciation of the leper work.

Amongst the many problems that confront us not the least is that of finding suitable employment for those who are not seriously invalided. Amongst two hundred lepers are found a considerable number who are still able to do something and who prefer some form of work to sheer idleness. For such patients we have encouraged gardening and this year an increasing number have found diversion and some profit to themselves in tilling the soil.

The care of the road and the cultivation of the Asylum garden of cocoanut and areca palms has given the more vigorous men pleasant employment.

The introduction of local self-government gives the leper community an interest in the practical affairs of village life. Following the Siamese custom of a chief or headman over each ten households, the leper community is divided into small companies, determined by their place of residence in the Asylum, over each of which is placed a headman of their own election. Under his direction work is assigned, fines for laxity in deportment are made and differences settled. In matters too difficult for the headman, a council of all the headmen is called. The overseer and the elders of the church are ex-officio members of this Council. The successful operation of this arrangement has given much satisfaction not only to the leper community itself but also to the missionary superintendent.

We have been put to unusual expenditure this year in two respects, first the building of necessary roads and bridges in order to make the women's quarters, newly built more than a mile from the men's quarters, accessible for supplies of food and accessible also to the foreign superintendent.

The second item of considerable expense was made necessary by the unexpected and unwonted encroachment of the river at a point near to the chapel and the palm garden. Emergency dyking was driven and the land saved at least for the present.

Some ten years ago a few so-called "rain trees", an importation from abroad, were planted on the island for shade purposes. Within a few years past it was discovered that these trees will produce sticklac and during the last two years we have sold several hundred ticals worth of sticklac from these trees.

During the present year we have planted several hundred seedlings of this tree, together with some hundreds of cocoanut seedlings. From this we look for fruitage in the future.

And now as we close the year we are permitted to record, with much joy and gratitude, the recent completion of one large and fourteen small cottages.

The large cottage is of heavy brick construction costing Two Thousand Dollars Gold and is called Bethany. The funds were supplied by the Women's Interdenominational Missionary Union of Washington, D. C. It was built in memory of Miss Bertha G. Johnson, formerly a missionary of our Board to India and later a Field Secretary of the Mission to Lepers. Miss Johnson was a most indefatigable worker in this cause, giving her last ounce of strength for the lepers, expiring on the platform while giving an address in behalf of her beloved work. This cottage is built in the most enduring fashion. It is also ornamental in construction and is a credit to the devoted women who have made so valuable a contribution to the leper cause in Siam and a fitting memorial to a devoted missionary. Its chief value however is that it supplied comfort and shelter to thirty leper women who daily enjoy Gospel privileges. Will all those who contributed to this fine memorial please accept the thanks of the leper women who in all the years to come are to find a home within its walls and also the thanks of the North Siam Mission.

The fourteen small cottages are called the Mary L. Stoner Village in the name of Mrs. Mary L. Stoner whose self-sacrificing contribution supplied ten of the cottages. Three others were built by Mrs. D. F. Macfie of Chiengmai and one by Dr. H. Campbell Tighet of Bangkok. These cottages stand on brick pillars. They are well built in every particular. They are roofed with burnt clay tile which will last for a century. Each cottage is amply large for two persons.

The living room is supplied with two bed-steads and bedding, two clothes closets and matting for the floor. There is thorough ventilation. The kitchen is furnished with a stove, cooking utensils, water-jars, two dish-cupboards and dishes.

These cottages are substantial, comfortable and of good appearance. On behalf of the happy leper people who are to occupy this village we ask to express hearty thanks to all the kind donors and particularly to Mrs. Stoner, whose gift inaugurated the village plan.

A Leper Asylum, as the term implies, is a refuge, but it is more; it is a home, the home of those who are seriously ill. While the disease is still incurable yet much can be done medically to ameliorate some of the more distressing symptoms. Of course lepers are liable to the ordinary diseases which afflict other people and the constant use of ordinary medicines is necessary.

For leprosy itself no remedy is comparable to Chaulmoogra Oil used hypodermically. While this treatment cannot be called a cure, yet it does produce most gratifying results, not only in the relief of some of the more loathsome manifestations of the disease, but also in its physical effects on the patients, giving them a brighter out-look on life.

The spiritual aspect of the Asylum is a cause for gratitude. All new comers are encouraged in church attendance and in Christian duties and practices. Although few of those who come have any knowledge of Christianity, yet very few of the more than four hundred lepers who have found shelter here have failed to become Christians.

If money be the "Acid Test" of one's sincerity these leper people would seem to be among those who stand the test. Out of their very scant allowance of pennies they are really liberal givers. Some of them practice tithing. When the envelope system of systematic giving was proposed to them, it was adopted quite heartily with the gratifying result that for the past eight months the weekly contributions have maintained an increased proportion of more than four hundred percent. Amongst their gifts may be mentioned: A contribution to Evangelistic work in Kwangtung, China, Scripture distribution in Chiengmai Provice, contributions to the Siam Expeditionary force in France, The American Bible Society in New York, the North Siam Theological School and Evangelistic work in Chieng Rung, Yunnan, besides Presbytery's apportionment for the Central Fund.

The Christmas season is a particularly joyful occasion in that they rejoice to give on that day and seem to have entered into the real meaning of the Lord's saying that "it is more blessed to give than to receive."

The aim is kept constantly before these leper friends to make here a model Siamese community; a model in good government, in obedience to the laws of His Majesty's Government, in sanitation, morals and religion. While the ideal has not been attained, yet it is gratifying to know that there has been a degree of growth and that there are good prospects for future progress.

We earnestly commend this institution to the support and prayers of all of God's people everywhere.

Respectfully submitted,

Dr. James W. McKean, Supt.

Statistics.

New Lepers received during the year	32
Left the Asylum without leave	27
Returned of their own volition	20
Died	13
In Asylum at close of the year	211
Of this number, Men	159
Of this number, Women	52
Received into the Church	23

MARRIAGES.

Dr. Royal F. Jester and Miss Amelia Loenstein of Kearney were married at Kearney, on June 17th.

Dr. Wm. B. Mantle of Albion was married June 22nd to Miss Vera H. Lackey, of Chicago.

Dr. J. M. Davey and Miss Frances Pletch, both of Ponca, were married on July 1st.

Dr. V. Lucas of North Platte and Miss Mary Campbell of Blenheim, Ont., were married June 26th.

Dr. Clement L. Martin of Lynch, and Miss May Greene of Omaha, were married July 21st.

DEATHS.

John Edgar Hathorn, Bartley, Neb., Rush Medical College, 1874; aged 75; died May 6th, as the result of an automobile accident.

Warren Perry, Fairbury, Neb., Jefferson Medical College, 1891; aged 56; member of the Jefferson County Medical Society, Nebraska State Medical Association and A. M. A.; local surgeon for C. B. & Q., St. J. & G. I. Railroads; for twenty-six years a resident physician of Fairbury, Neb., died July 7th.

Kimball Edward Thompson, West Point, Neb., John A. Creighton Medical College, 1908; aged 36; died July 6th, from heart disease.

F. S. Johnson, for twenty years a physician of Odebolt, Iowa, died at his home near Sioux City on July 6th. One of his daughters is the wife of Dr. A. M. Sonneland of Norfolk.

Major-General William Crawford Gorgas, former Surgeon-General of the United States Army and President of the American Medical Association in 1909-1910, died in London, July 4, aged 66.

CORRECTION:—Mr. Lemar, whose death was noted in the June issue of the Journal, was the father of Dr. C. L. Lemar of Osceola and the uncle of Dr. F. A. Lemar of Humphrey.

When Good Digestion Fails.

Improper and excessive eating causes more disease than anything else on earth. The public would be astounded if it knew how many physical troubles and untimely deaths come directly from gluttony. Appetite controls almost all diets. Whatever tastes good is swallowed, with little thought of results.

We all eat too much, guided as a rule by our appetites and the supply in sight. So long as our stomachs, livers, kidneys and hearts stand up under the burdens we place upon them we give no thought to consequences. When they give a warning now and then we get a palliative from the doctor and distrust his efficiency if unable to take a full share of the next meal.

Meanwhile the human machinery that keeps us going gradually weakens. The kidneys, the liver, the stomach or the heart makes then so vigorous a protest we cannot dodge. Again we call in our physician, and this time he says unpleasant things to us. He uses language that startles us and tells us truths we shall never forget about internal

vital organs that never can be replaced. We learn with dismay that there is a limit to what the doctor can do for us, and that we have no right to expect him to relieve us in a few weeks or months of conditions which we have caused by twenty or thirty years of indulgence.

Gone then is the "live forever" feeling we have always had. Our mortality is impressed upon us. And, worst of all, we learn that if a cure is possible, we ourselves must bring it about by self-denial and the curbing of our appetites. The doctor puts it up to us that we must choose our course for life or death. If life is to continue long the rich gravies, meats, pastries and sweets in which we have so long delighted must be discarded for the plainest of simple foods, taken with none of the hot and pungent sauces and relishes we crave. About one man in twenty has the character to turn from his gluttonous ways, and after years finally to climb back inch by inch to health.

The other nineteen take "treatments" at watering places, obtain temporary relief from medicines, or live for a time on stimulants. But they are busy three or four times a day digging their graves with their teeth. Then they begin to drop off one by one in the late 40s and early 50s of the acute infections that put hearts, livers, kidneys and stomach out of business. Over-fed, they have the outward appearance of health until suddenly before they know it their days are numbered. We used to talk of men "drinking themselves to death," while for one who did that there were a dozen eating themselves to death.

In time we shall be educated in this vital matter of food and drink. We shall learn to eat intelligently, that is to say, moderately. Then perhaps the proportion of diseases originating from abuse of the stomach will decrease. It is said now to be ninety per cent of the total, which is, maybe, another way of saying that nine out of ten of us are gluttonous. — Omaha Bee.

The Group of Filth Bacteria.

Dirt has been defined as matter out of place. Filth is objectionable matter out of place and filth bacteria are all traceable to objectionable matter out of place. The average dish rag as used in washing dishes, is loaded with bacteria, in part derived from food remnants in dirty dishes, but more especially with organisms that develop in the damp cloth during the intervals between dish washings. A long used handkerchief is loaded with bacteria from fingers, from face, from mouth, from nasal passages, from respiratory tract, and those which multiply in the cloth during its stay in the pocket. The handkerchief is often stained and discolored from nose and mouth secretions, usually giving off a very disagreeable odor, designated as mucus. This mucus odor is especially pronounced in the presence of a considerable number of the Bacillus catarrhalis and of the coccus and diplococcus forms.

There is no distinctly recognizable group of filth bacteria. However, we may recognize small bacilli (resembling the colon bacillus), small but distinctively diplobacillus forms, and several different kinds of coccus forms, as filth organisms. For example, tomatoes put up in unsanitary canneries, usually show a considerable number of these three types of microbes, traceable to filthy tomato lug boxes, filthy washing machines, filthy carrier belts, filthy vats and dirty hands of workers. In some canneries the toilet provisions are entirely inadequate and the workers, men and women, simply wash their hands in the tomatoes. Workers have been seen to deliberately expectorate into the tomato containers. Flies and insect remnants are frequently found in the finished tomato product.

Bread is often highly contaminated (usually in streaks and in certain loaves) due to fragments and scrapings of deposits in and upon dirty mixing machines. The highly unsanitary method of handling bread open, without covering of any kind, leaves dirt and contamination from filthy hands, filthy containers, air blown animal excreta, etc., upon the exterior of the bread. The filthy contaminations of milk are familiar to all.—Albert Schneider, M. D., Ph. D., Professor of Pharmacognosy, College of Pharmacy, University of Nebraska.

"Classify" not "standardize" is very aptly suggested editorially by the Texas State Journal of Medicine in discussing Hospital Standardization. We quote: "We will cooperate of course, with organizations legitimately attempting to better hospital service; but our first duty is to our hospitals, our State Board of Medical Examiners and the American Medical Asociation. The report of the Council on Medical Education of the A. M. A. should be read in connection with the report of our Committee on Hospital Standardization."

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Acidosis in Infants and Children.*

H. M. McClanahan, M. D., Omaha.

This subject is receiving renewed attention. While some problems are yet in doubt, much has been learned from the laboratory methods. The following statements are based chiefly upon the work of Sellards on Acidosis. For the convenience of those interested in the subject I have appended a bibliography. The subject has been studied in the following diseases:

1. Nephritides.
2. Diabetes.
3. Cholera.
4. Following ether anesthesia.
5. Advanced lesions of the liver.
6. Sometimes in rheumatic fevers.
7. As it occurred in the food intoxication in infants and children.

To maintain a constant alkalinity of the blood under all conditions there is regularly going on in the body the processes of oxidation, neutralization and excretion. The hydrogen ions of the blood vary but little in health and acidosis. This is because the blood to maintain its alkalinity takes up the alkalies from the body. The mineral acids, namely, carbon, sulphur and phosphorus are eliminated as follows: The carbon is oxidized by the oxygen carried by the blood from the lungs and eliminated as CO_2 from the lungs. The sodium carbonate is carried back into the circulation again.

Some of the sulphur and phosphorus are neutralized by the fixed bases of the body. It is not known in what proportion chiefly these passive radicals are eliminated by the urine. It is an interesting physiological fact that the kidneys secrete an acid urine from an alkaline blood serum. In nitrogen metabolism ammonia is liberated in the breaking down of the body cells and a portion of it combines with the acid radicals. The ammonia not utilized by the acids is converted to urea and eliminated by the kidneys, hence the alkalinity of the blood remains constant:

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

1. By the intake of fixed bases of the food.
2. The elimination of carbon by the lungs.
3. The elimination of acid radicals by the kidneys.
4. Neutralization of the radicals in the body by ammonia.
5. Neutralization of organic acids by the reserve alkali.

This is the process in health. In disease there is no new method but simply an increase in the normal processes. So long as fixed bases are at hand, carbon is eliminated by the lungs. If excessive amounts of acid radicals form or if the kidneys fail to function, other methods must be found to dispose of the acids, hence the reserve of alkali is drawn upon. The ammonia is increased from catabolism of the proteid and more ammonia is used in acidosis than in normal conditions.

"Normally oxygen is carried by the arterial blood, from the lungs to the tissues where the carbon is burned and the resulting carbon dioxide is carried as carbonate, largely sodium bicarbonate, by the venous blood to the lungs, where the bicarbonate breaks up, the carbon dioxide is exhaled, the normal carbonate returning by the arterial blood to the tissues to take up and carry away more carbon dioxide. With the depletion of the carbonates, the oxygen is still carried by the arterial blood but the resulting carbon dioxide gradually accumulates in the tissues, since there is not an adequate supply of bases for transporting it to the lungs. With this accumulation of carbon dioxide, the tissues are no longer able to utilize the oxygen brought to them." (Sellard Acidosis).

When the reserve alkalies are exhausted, the oxygen not being able to combine, remains in the body and passes off into the veins, giving a brighter color to the venous blood. This leads to the chief symptom, namely, air hunger and explains why in severe acidosis there is no evidence of cyanosis. Laboratory methods employed are:

1. Measuring the carbon dioxide content of the alveolar air.
2. Testing the blood serum for its hydrogen ion content.
3. Testing the hemoglobin for its oxygen capacity.
4. Testing the urine for its various constituents.

These are methods that can be carried out only in a modern laboratory and I shall not attempt to discuss them. The physician is compelled to recognize the condition by the clinical symptoms. Acidosis in children in association with some food intoxication, sometimes in nephritis and occasionally in the infectious diseases. The most remarkable feature, however, is that occurring in breast fed infants. For this, so far, no satisfactory explanation has been given. The most plausible theory is that in the digestion of the fats and sugars, certain acids are developed such as lactic acid, etc. These combine with the alkalies and exhaust the reserve. The only invariable symptom present in acidosis is hyperpnoea. This is expressed in rapid breathing, the wide expansive movement of the chest, the apparent reaching out for air without any evidence of obstruction in the larynx or lungs. In all cases that I have seen, the child has a masklike face, is not easily interested in its surroundings, is often restless, moving from side to side; this later followed by stupor, irregular temperature and scanty urine. Another symptom that I have always found present is a peculiar sweetish (sometimes called over-ripe apple) odor to the breath. Howland and Marriott have shown by laboratory evidence that there is a considerable degree of acidosis before air hunger is manifest. It is fair to assume that the reserve alkalies are exhausted before air hunger begins. These authorities have shown that the blood in acidosis contains an excess of phosphate.

Treatment.

The specific treatment in acidosis is the use of sodium bicarbonate and in many cases this gives brilliant results. The problem is the method of administering it. The following methods are possible:

1. In solution by the mouth.
2. By proctoclysis.
3. By gavage.
4. By hypodermoclysis.
5. By intraperitoneal injection.
6. By intravenous injection.

The first and second methods are unreliable as it is often not possible to give a sufficient amount. As recently pointed out by Dr. W. J. Mayo in the Journal of the A. M. A., Vol. 74, No. 6, the lower half of the colon is not at all an absorbing organ and in many cases the fluid passes out of the bowel before reaching the upper portion of the colon.

The objection to the third method is, the child is apt to vomit before the soda can be absorbed.

The use by the fifth method has not thus far received endorsement by those having experience.

This leaves the methods of hypodermoclysis and intravenous injection or by gavage as the most reliable. I am frank to say that outside of the hospital, the intravenous method is not practical. Consequently the methods of hypodermoclysis or gavage are the most practical in private practice. Authorities recommend the 2 to 3 per cent solution. How is a physician to prepare the solution? He should use boiled and distilled water. When this is not to be had, he should boil not less than a gallon of water, and decant off the top half so that certain alkalies may settle to the bottom. This can be strained through several thicknesses of cheese cloth. One laboratory worker told me this was unnecessary. I have, however, seen the water strained through cheese cloth and have noticed a considerable amount of debris on the cheese cloth. The solution should be prepared only when ready to be used. A standard brand of sodium bicarbonate is to be employed. If the solution stands, sometimes it becomes more caustic from the loss of CO_2 which is driven off and it becomes sodium carbonate. The writer knows of a case where the doctor prepared it in this way and an ugly slough followed the injection. In private practice this solution should be made from boiled strained water or from boiled distilled water if it can be procured and used immediately after the sodium is added to it. Dr. Wohl at my request has made some experiments with soda solutions in the laboratory and has verified the statements made, namely, that sodium bicarbonate solution rapidly changes to a solution of sodium carbonate, and second, that the solution rapidly becomes contaminated.

The writer will report three cases:

First, an infant, breast fed for 8 months. Aged 10 months. Died third day of illness. Previous health excellent. Had received quite a variety of foods after weaning. Air hunger developed second day. In spite of treatment it died on the third day.

Second, child about 5 years, previous health good. Taken sick with vomiting, diarrhoea, stools, temperature 102°. On the third day this child developed decided symptoms of air hunger and was seen by the writer at noon. Extreme pallor, temperature 100°, breathing rapid and shallow, no pulmonary symptoms. It was given soda by the bowel and by mouth, but died at 7 p. m.

Third, a little girl aged 7 years. This child had frequent attacks of cyclic vomiting. Came under my care on Jan. 20, 1919. Stools slightly loose, no fever, vomiting frequently, even water. On third day she developed rapid breathing and the case seemed serious. Urine highly acid containing acetone bodies. This child was given 8 oz. of a 3% solution of sodium bicarbonate by gavage. This was vomited in a few moments. It was then repeated and the second quantity of 8 oz. was retained. She was also given soda solution by proctoclysis and retained solution. The following day the air hunger had disappeared and she was able to retain food and recovered. In my experience this is the only case of recurrent cyclic vomiting in which severe acidosis has developed.

The mere presence of acetone in the urine is not at all a proof of acidosis. In many hundreds of urine examinations I have frequently found acetone in the urine, and very few, indeed, have developed acidosis. This will be found thoroughly discussed in the article by Howland and Marriott. It is true that acetone may be present in cases of acidosis, but it is a coincidence. Air hunger is the only clinical evidence that the free alkalies of the body are exhausted. However, when symptoms of acidosis appear, for example: vomiting and sweetish breath, alkalies should be administered. Authorities all agree that the soda solution administered intravenously gives the most prompt and certain result. As I have stated, this is not a simple matter outside of the hospital. When the patient will not drink the soda water, and when the soda solution is promptly expelled from the bowel, then we should resort either to hypodermoclysis or gavage. I personally prefer the latter procedure. Nothing more is required than the catheter and a small funnel, and a 5% solution can safely be given. If the solution is vomited, it can be repeated; and in my experience it is usually retained.

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The writer wishes to acknowledge the courtesy of personal letters on this subject from:

Dr. Oscar M. Schloss, New York City.
Dr. W. McK. Marriott, St. Louis.
Dr. Frederic W. Schlutz, Minneapolis.
Dr. B. K. Rachford, Cincinnati.
Dr. Fritz B. Talbot, Boston.
Dr. E. Charles Fleischner, San Francisco.

Discussion.

Floyd Clarke, M. D., Omaha.—A few years ago I took occasion to look up this subject. We prepared a paper for presentation before the Nebraska-Iowa Pediatric Society. A short time after we had a series of four cases of acidosis.

In my experience, acidosis comes out of a clear sky, and the physician is confronted with a severe condition almost from the start, especially in children.

I wish to report three cases on which we used sodium bicarbonate both by mouth and rectum. I have never used it by gavage. These three cases died within possibly 24 or 48 hours. I lost two in 24 hours. I was with one during the night and called to another the next morning, and it died within ten hours. Finally I realized we were not getting anywhere with our bicarbonate of soda solution. We then had a post-operative case of acidosis, and instead of using sodium bicarbonate, I used an injection of blood without going through the stage of alkalizing it. I had the surgeon take the blood from the mother and inject it into the buttocks of this child. That is the only case of acidosis coming out of a clear sky we have had that has recovered, even in spite of careful treatment and getting a nurse on the case almost from the start. That of course is only one case, but I am satisfied when I get another case of that class, I am going to use blood. You do not have time to alkalize the blood. It is one of those things on which you must get busy from the start, and I am personally convinced in some of my other cases I am going to use blood.

Howard B. Hamilton, M. D., Omaha.—Some of these cases of acidosis vomit and others do not. In the cases which do not, we are able to give sodium bicarbonate by mouth. In those in which there is vomiting, it is a much more difficult thing. The intraperitoneal route has been used to quite an extent. It might be of interest to note that the ordinary sodium bicarbonate is usually sterile. If we boil the water and add the sodium bicarbonate after the water has cooled and use immediately, there is little danger of sloughing of the tissues. Some of these cases, particularly those in association with diarrheal diseases in children, become dehydrated from vomiting and the frequent stools. One of the main things is to get fluid into the body, as well as to alkalize. We are able to use salt solution intraperitoneally, which does not give rise to the distension which glucose does, and we are able to get fluids into the body which must dilute these acid bodies and assist elimination.

In connection with this subject, we see cases of infection which undoubtedly give an appearance of acidosis and we have been giving alkali as a matter of routine. So far as I know, the suggestion was not made with any reasonable basis for the administration of an alkali; but with the conception of the symptoms being to some extent an expression of the acidosis, the logical reason for giving alkali would be apparent. We may get better results if we give alkali in larger doses than we have been accustomed.

Newell Jones, M. D., Omaha.—Dr. McClanahan has certainly put in a world of work on this subject, and it is a subject which is confronting the man who is taking care of children every minute of every day. When you meet it you are up against it.

I should like to mention just a couple of measures we have used in the last two cases. With Dr. Hamilton, I want to agree, the sodium bicarbonate is usually sterile, and the danger of acidosis is so great I would rather run the chance of infection than the chance of death without using it.

In one case I boiled the water, put in the sodium bicarbonate and put it into the patient's vein. If I had another opportunity I would do the same thing. Unfortunately, in this child it was too late.

In a patient seen a short time ago, almost in coma, while we were testing the blood of the donor we started giving Fischer's solution with 5 per cent glucose, by the bowel, after giving the patient a hypodermic of heroin. We had tried giving soda solution by mouth and gavage. We mentioned transfusion to the family, and they accepted it. We got the patient to the hospital and raised the buttox eight to twelve inches higher than the shoulders, and after giving heroin to quiet, gave the Fischer's solution and glucose, and in two hours saw a very excellent result. This was the third attack of acidosis, but the family thought it more grave than the others. Here all use of bicarbonate had failed. Before we had the blood tested, the child was on the road to recovery. It is quickly over one way or the other. One reason we do not get results from bicarbonate is there is no absorption. The lymphatics have quit. There is no absorption from the stomach, and the bowel has quit absorbing. We do not generally give an opiate, but I would quiet them and give them their alkalies. But it should be given intravenously or intraperitoneally; and personally, I have a lot of faith in transfusion.

W. O. Colburn, M. D., Lincoln.—In Dr. McClanahan's paper he did not mention giving cathartics in these cases. I want to emphasize the fact I think they should not be given. I think many a cathartic given to these little children when manifesting slight symptoms of acidosis precipitates it. You want to conserve all the fluids and get busy giving more fluids. Most of them are losing fluids by vomiting or bowel, and it is our purpose to help out by administering them.

I have had several experiences of giving salt intraperitoneally, almost always with good results. I have given dextrose by the longitudinal sinus route with good results. I had a case where I administered sodium bicarbonate by sinus route. The case was an extreme case of acidosis. In the course of 24 hours we administered the sodium bicarbonate solution three times, each time the hyperpnea was relieved and the baby seemed almost well, but death occurred soon after the last administration.

H. J. Lenhoff, M. D., Lincoln.—I suppose nobody should talk on the subject but a pediatrician. I am not one, but I want to emphasize one point. We have called this condition acidosis, and it is a good name, but a little misleading. The fact is, it is a nonalkalinity. The alkalinity is diminished and results in an acidosis. Because it is diminished, we fail to get the oxygen absorbed and to get the CO_2 relieved. The fluids of the child hardly ever become really acidified, but they become nonalkalized. Oxygen is not absorbed and the CO_2 is not delivered because there is not the proper alkali radical to which the gases may become attached.

I think the pediatrician should give us more light upon the foods given to babies. Our breads, cereals and sugars are robbed of their alkalis just to make them look pretty.

William Berry, M. D., Omaha.—Dr. McClanahan mentioned the infant at the breast. It is supposed to get the best nourishment possible. But there are times when the improper activity of the mother in nursing, and the nonalkalinity of the mother, may be carried into the milk and a certain amount of acidosis results. If we prevent that in the nursing mother at the time, the problem is solved. I have had many instances of correcting the mother's diet to conform to the proper diet of the infant. The mother is not taking the proper food to offer to the breast-fed baby, and so we have these serious cases that are hard to control in acidosis.

I was in hopes Dr. Colburn would read his paper so that these two papers could be discussed together. There are a number of other things with reference to acidosis which determine to a great extent the controlling of other diseases of infancy, such as broncho-pneumonia.

Dr. McClanahan, closing: I have had no experience with the use of blood in acidosis. We recognize its value in the hemorrhage of the new-born. I am glad to hear the doctor speak of it, and will give it consideration.

As to the salt solution, it is valuable, and was not brought out in my paper. The sterile soda solution I made a point of, because we have had the actual experiments made in the laboratory showing how quickly it will deteriorate.

Dr. Jones' point of giving something to relieve the bowels I think is well taken. The lower bowel, as brought out by Dr. Mayo, does not absorb.

Dr. Colburn's point of the increased amount of fluid is excellent.

I am glad to hear Dr. Lehnhoff speak as he did. Any statement he makes has weight with me.

Dr. Berry's point is an excellent one. I do not know of any work being done on the alkalinity of mothers' milk. We all accept it as the natural food. I believe it is because the mother's milk is rich in fat and takes up the alkalies and produces acidosis. According to many authorities, if the soda solution is promptly given as soon as breath hunger begins, they are not so hopeless.

Practical Infant Feeding Without Breast Milk.*

Dr. Floyd Clarke, Omaha.

Successful infant feeding at the present time cannot reasonably be called scientific. A few exact facts are at hand, but the latitude allowed in adapting these facts to the needs of the individual infant, makes their scientific worth almost negligible.

Doctor John Lovett Morse probably was the first to call our attention to the truism that each infant is a law unto itself, that milk should be modified to suit the infant and not the infant to suit the formula. Every infant is a law unto itself; his individual requirements should be studied and the food adapted to suit those requirements.

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*Read before the Sioux Valley Medical Association at Sioux Falls, South Dakota, June 23, 1920.

The physician who attempts to feed infants must be resourceful, be able to quickly call upon his experience and clinical judgment. It may be impossible for him to state definitely why he makes this or that change in the formula.

The great essential in successful infant feeding is a gain in weight. If an infant is progressing he is gaining in weight. If he is not gaining, his food may be wrong and should be changed to meet his individual requirements. It is not necessary that the infants weight be estimated oftener than once a week. The average weekly gain of a bottle baby for the first five months should approximate five ounces, during the remainder of the first year four ounces. The fact that a gain in weight is essential to the well being of an infant, has perhaps been somewhat neglected, but its importance can hardly be over-estimated.

An infant should be satisfied with the food he is receiving, he should be comfortable and compare favorably with the normal breast fed baby of the same age. Give the baby enough food at each feeding. Usually an infant will take two ounces more per feeding than each month of his age. For instance an infant three months of age will take five ounces of food at each feeding. In certain well-defined instances this amount may even be exceeded. Prepare the food necessary for the full twenty-four hours. Feed the required amount at either three or four hour intervals. Waken the baby regularly during the day time for these feedings, do not waken for night feedings. The three hour schedule should be nine, twelve, three, six, ten, once at night if he awakens, once when he first wakes in the morning. Seven feedings in twenty-four hours. The four hour schedule at six, ten, two, ten, once at night if he wakens, six feedings in twenty-four hours. All directions for feeding should be written.

Idiosyncracies to cow's milk have been described in the literature. The physician should ever be on the watch for these rare instances. However, breast milk being unavailable; cow's milk is the food on which the infant will thrive best. Cow's milk is not an ideal food for the baby and the many proprietory foods on the market bear witness to this fact.

Experience has shown that the boiling of milk does not affect its nutritional value. We also know that the infant can take care of larger quantities of boiled than raw milk and digest it better. The boiling of milk in the home will in great measure, remove the danger of summer diarrhoea, tuberculosis, streptococcus sore throat, scarlet fever and many other infections which the feeding of raw milk entails. The statement that the boiling of milk produces rickets, underdevelopment, anemia, scurvy and that the infant does not thrive, is not borne out by practical experience. The occurrence of scurvy may be a real danger, but if orange juice be given between feedings, this danger is at once eliminated. Bremmerman asserts that boiling commends itself as an excellent case in modifier, and that it effectually disposes of the majority of bacteriological problems when the milk is properly handled after boiling. It is admitted that many infants can digest and make a satisfactory gain in weight on milk dilutions without boiling. However, the general opinion among most pediatricians seems to be that with the home boiling of milk, better practical results are obtained.

The estimation of the number of calories in a given amount of food is not necessary in the practical every day feeding of infants. The caloric quantity should be ascertained if there be suspicion on the part of the physician, that the infant is being over or underfed.

Dennett estimates the daily caloric needs of infants as follows: Fat infants over four months of age need forty to forty-five calories per pound. Average infants under four months of age and moderately thin infants of any age, need fifty to fifty-five calories per pound. Emaciated infants varying with the degree of emaciation need sixty to sixty-five calories per pound.

Caloric Value of Infants' Foods.

One ounce of milk equals twenty calories.

One ounce of sugar equals one hundred and twenty calories, any kind of sugar, (by weight).

One ounce of flour equals one hundred calories (by weight).

One ounce malt soup extract equals ninety calories (by weight).

Two scant tablespoonfuls of malt soup extract equals one ounce by weight.

Two level tablespoonfuls of cane sugar equals one ounce by weight.

Three level tablespoonfuls of milk sugar equals one ounce by weight.

Four level tablespoonfuls of dextro maltose equals one ounce by weight.

Four level tablespoonfuls of flour equals one ounce by weight.

It should be borne in mind that the caloric needs of an infant may be less or may be in excess of the above and that the table merely serves as a guide or check when the infant is not making satisfactory progress.

For routine purposes, an infant needs from one and one-half to two ounces of milk per pound weight every day. When an infant is taking one quart of milk or more in twenty-four hours, he usually has the appearance of what we are accustomed to call a milk baby. His musculature is soft and flabby. He is usually anemic and is sluggish in his movements. It is a signal for the reduction of the amount of milk and increase of solid food.

When an infant is taking eight ounces of milk mixture at a feeding and an increase is found necessary, the addition of solid food is indicated. Probably the earliest symptom of carbohydrate indigestion is sour watery vomitus. When this is accompanied by irritation about the buttocks, an excess of carbohydrate is being fed. The iodine test will frequently show the presence of undigested starch in the stool. The reaction of the stool is acid. The stools of fat indigestion resemble scrambled eggs in their gross appearance. When a portion of the stool is rubbed on a piece of soft paper, the paper will have the appearance of oiled paper when dry. The reaction is acid.

An excess of protein may be made apparent by a subnormal temperature, slow pulse, superficial respiration, and bluish grey color of skin. The stool may contain large tough curds or may be loose, brownish in color and alkaline in reaction.

By far the great majority of infants will digest plain whole milk mixtures with the addition of sugar and water and the whole mixture boiled.

In starting infants under two months of age, our habit is to write careful directions beginning on ten ounces of whole milk and twenty ounces of water, the whole mixture boiled together slowly for three minutes. Four ounces of this mixture is offered the infant every three hours, according to the schedule given above. At first no sugar is added, but as the baby shows his ability to take care of this simple mixture, sugar is added, at first a tablespoonful. Gradually the milk is increased till the mixture is half milk and half water. Careful record of the weight is kept and sugar is added as the infant shows his ability to digest and take care of each increase. As the age advances, more food is given, the formula never exceeding half milk and half water up to six months of age. It is surprising the ease with which most babies will take care of a rather large percentage of sugar in the food. It has been our custom rather frequently to use two kinds of sugar in the feeding formula. Especially is this necessary when a satisfactory gain in weight is not apparent. For instance if a baby is taking two tablespoonfuls of cane sugar in a formula, one can add a tablespoonful of dextro-maltose or corn syrup. More is added as seems necessary. Infants seem especially able to digest large percentages of corn syrup. Marriott states that he has fed infants on corn-syrup mixtures as high as ten percent, the total sugar content up to fifteen percent.

Cereals can be added to the food at an earlier age than was formerly supposed. If an infant is not thriving on an adequate formula at two or three months of age and there is no diarrhoea, one can frequently add the cereals, cooking the mixture of milk, cereal, sugar, and water for one hour in a double boiler. Often a most satisfactory gain will at once be made and the infant continue to thrive. Of the cereals, we have had the most experience with farina, adding from one to four or more tablespoonfuls up to the point of the thick cereal gruel feedings, as used in the treatment of hypertrophic pyloric stenosis.

Our experience with the feeding of buttermilk mixtures in the home has not been entirely satisfactory. In institutional work where proper supervision of the making of the mixture can be insisted upon, the results are better. At about the age of six months an infant can frequently be fed on food other than milk. One can often begin feeding a small portion of toast with the milk mixture poured over it, baked potatoes with butter, or the milk mixture, or a teaspoonful or more of one of the cooked cereals with the milk mixture to make it more liquid. These should be fed before giving the bottle. It is our custom at the age of nine months to give the infant at least one meal daily, which is not composed entirely of cows milk. This meal may consist of broth with crackers, stale bread or toast, baked potato, any cooked cereal, small portion of spinach, mashed carrots, cauliflower, lima beans, or peas, orange juice or some of the cooked fruit juices with a small amount of their pulp.

At approximately one year of age the baby should be weaned from the bottle. Finally one may conclude that: 1. Infant feeding without breast milk cannot, in the very nature of things, be called scientific, but is based largely on clinical experience and judgment and the study of the individual infant.

2. That the boiling of milk in no way detracts from its value as a food and possesses many preventive advantages.

3. That a satisfactory gain in weight is essential to progress and more attention should be paid to it.

4. Cow's milk not being an ideal food, other foods can be given much earlier than has been supposed and the infant thus not made dependent on cow's milk for its proper nutrition and growth.

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The Roentgen Ray Treatment of Goiter.*

A. P. Overgaard, M. D., Omaha.

The roentgen treatment of the thyroid gland has been used since the early days when the Roentgen ray was first used as a therapeutic agent. I will consider the effect of the Roentgen ray in its relation to the thyroid gland and results following its application. Seventeen years ago I began the treatment of goiters with the Roentgen ray. Our source of energy was then obtained from a static machine and as you all know we had no way of measuring or even estimating the volume of current or dosage given. Yet by daily applications, for a couple of months, we had uniform success. These patients were young girls in high school of an average age of 14 years.

However when the Coolidge tube came in 1914 we began to measure our dosage and were sure of being able to duplicate dosage each day. This tube is the one thing that has marked our advance in the application of the Roentgen ray. The gamma ray is the therapeutic ray which must be applied to the thyroid gland in a systematic and accurate manner in order to accomplish the results which we are able to get today.

Sandiford of the Mayo Clinic reports that the basal metabolic rate is of the greatest value in thyroid disorders because it gives a very accurate mathematical index of the degree of functional activity of the thyroid gland. In exophthalmic goiter the metabolic rate may rise to well over 100 percent above normal, while in myxedema, with apparently complete secession of thyroid activity, the rate falls to the region of 40 percent below normal. The basal metabolic rate has proven, therefore, to be of great value in the differential diagnosis of neurosis simulating hyperthyroidism and true hyperthyroidism.

The early symptoms of disturbances of the thyroid should be easily recognized. The definite loss of weight in spite of an unimpaired appetite; the increased amount of energy discharged; the physical and mental restlessness; the tremor; the loss of vascular tone; the acceleration of the pulse rate and the so-called "internal tremor" to which patients so frequently refer, should call one's attention to the over functioning of the thyroid, and should demand immediate consideration. If these symptoms were taken at their face value and early treatment instituted the results in many patients would be different.

DuBois has demonstrated satisfactorily

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that the basal metabolism in severe cases may be 75 per cent or more above the average, whereas in mild cases it may be only 50 per cent, so that we have one clear and rational indication for treatment. Another fact that has pointed the way in treatment is that brought out by Cannon in his work on innervation of the thyroid. He concludes that the nerves distributed to the thyroid cells belong to the symphathetic and not to the vagus supply, and that their effects are not indirect through alterations in the blood flow; indeed that they are true secretory nerves. The thyroid is subject to that division of the nervous system which is brought into action in emotional excitement. The experiences observed in the late war go farther toward confirming this.

This again points the way from etiology to rational treatment. It implies a condition of unbalanced nervous function which cannot be restored. This is definitely a medical condition, and no one unto this day has better outlined such, than Weir Mitchell in his method of rest treatment.

Patients having diseases of the thyroid gland are divided into four groups by Litchey as follows:

Group 1. Those patients having hyper- or hypothyroidism without any apparent pathological change in the gland. No change in the size or shape of the thyroid is demonstrable physically. These may be early in which later pathology will become manifest, or they may be well advanced cases with no pathology of the gland. If one is keen in recognizing the early symptoms of the thyroid disturbance, this class may be large. The symptom-complex. however, is usually quite definite. A study of the basal metabolism may be necessary to confirm the diagnosis in doubtful cases. The treatment in these cases is definitely medical which includes, as stated heretofore, any means which are not surgical. I do not know of any attempts at treatment by X-rays in these cases, unless it be in those in which the thymus gland is enlarged.

Group 2. Those patients having an enlargement of the thyroid, but in which from the age of the patient and the absence of certain symptoms, the diagnosis "Adolescent thyroid" may be made. It occurs in young girls about the time of the establishment of the menstrual period.

It may also occur in boys at the age of puberty. The enlargement is usually temporary. There are of course notable exceptions. If any definite treatment is necessary it is medical. Usually time and careful prophylactic measures may prevent the hyperthyroid syndrome. Most of these patients resume normal thyroid after the menstrual periods are fully established. On account of this, it is extremely difficult to estimate the real value of any treatment which may be instituted.

Group 3. Those patients having an enlarged thyroid with a definite hyperthyroidism active or at times potential. The enlargement may be due to hyperplasia of a parenchymatous type (true Graves disease), or it may be a colloid goiter, a cyst, an adenoma, or any combination of these conditions. This is a group of patients in which the course of treatments is occasionally extremely difficult to decide upon. It depends largely on the stage of the disease or condition present at the very time the patient is seeking advice. Two principles should be kept in mind: 1. Pathology of the thyroid gland should receive the same prompt consideration as similar pathology does elsewhere in the body. If the indications are for surgery it should be undertaken; if for X-rays the same obtained. 2. Due regard must be given this stage, or degree, of secretion of the thyroid gland, determined by its effect on the general health of the patient, before deciding upon any course of treatment. In toxic goiters of extreme degree, and in true exophthalmic goiters medical treatment may be the only safe treatment at first, and may be a necessary preliminary to later surgical or X-ray treatment. If after a successful course of medical treatment the thyroid gland still presents such pathology as would ordinarily require surgical interference; surgery should be undertaken promptly before there is a recurrence of disturbed function. In certain cases the intoxication may have reached such a stage that medical treatment, i. e., physical and mental rest, abundance of food, support of the circulation and nerve sedatives, however, carefully prescribed, will not bring about such amelioration as to make an operation a safe procedure. Under such circumstances it may be still safe to use the X-ray treatment, either as a preliminary to operation, or without any thought of a subsequent operation. In these cases X-ray treatment has been most satisfactory. In several cases where it was begun only as a preliminary treatment the results were so satisfactory that it was continued until the symptoms subsided and the swelling practically disappeared. Of course there are occasionally fulminating cases which run a rapid course and for which no treatment however carefully planned is of any avail. It will be seen that in group 3 the success of any treatment is largely dependent upon the proper selection of cases. The problem is practically the same as it is in gastric and duodenal ulcer. There are some patients who will get well with medical treatment and remain permanently well, while there are conditions in others which will interfere with recovery until surgery is undertaken, or X-rays are applied, and finally there are those who will not recover with any treatment. These are fulminating cases, or the neglected chronic cases with definite vascular or nervous disturbances.

Group 4. Those patients having definite pathology of the thyroid, enlargement, without any disturbances of thyroid function. This group includes malignant tumors such as carcinoma, also the so-called "simple" goiters, or colloid growths, as well as adenomata and cysts, and inflammatory reactions due to tubercular, luetic or other infections.

These are imperatively surgical conditions, especially when malignant or when producing pressure symptoms interfering with breathing or swallowing. Certain of these conditions, such as adenomata and colloid goiters, yield satisfactorily to X-ray treatment, which under certain circumstances may be preferred, but in emergencies surgery is imperative.

According to Russell H. Boggs, the physician best able to treat goiters must have developed sufficient judgment to enable him to select the medical, surgical, or roentgenological treatment best adapted for each individual case. This may be determined only by careful study of many factors. In the past there have been operations performed on the wrong class of cases at the wrong time, either too late, or at the height of the toxic symptoms. The same can be said of many roentgenologists, who have treated cystic and other forms of goiter and expected results. And many cases have been treated too long medically. When medical treatment has been employed, the physician must realize that rest is an important factor, just as the surgeon, operating on goiter every day realizes that an advanced case of exophthalmic goiter is inoperable unless the patient improves under rest in bed within a few days. The surgeon who operates on a case before making a careful study of the patient is just as injudicious as anyone who treats all forms of enlarged thyroids, regardless of the type, by radiation.

Since this is a comparatively new form of treatment, it is natural that there are still somewhat diversified opinions existing among the roentgenologists as well as the medical profession. At present many roentgenologists have treated and studied a large number of cases, while others have only treated a few cases and have not given the subject serious consideration.

There are three well known forms of treatment of goiter at the present time, namely, medical, roentgenological, and surgical. The medical should always be considered first, as changes in the thyroid gland are produced by various conditions, such as infections, fatigue, pregnancy, shock, etc., and many times the symptoms will disappear when the patient is kept at rest under medical treatment. Focal infection should always be searched for and when found treated promptly.

Indications for Roentgen treatment. 1. All forms of exophthalmic goiter derive benefit from radiation, and the symtoms can be relieved or the patient can be symptomatically cured in 80 per cent of the cases unless the disease is too far advanced. Nearly all cases can be both symptomatically and objectively cured. 2. The Roentgen rays are useful in reducing the overactivity of the thyroid gland in exophthalmic goiter before operation, where the tumor is large and the symptoms are so intense as to make operation dangerous. When given as an ante-operative procedure, it is advisable to operate within four to six weeks, before fibrous tissue formation has taken place. 3. In relapses after operation for exophthalmic goiter, radiation should always be employed after a careful study of the ductless glands has been made, rather than the contemplation of a second operation. 4. Exophthalmic goiter in which other ductless glands play an important part, particularly if the thyroid is of only small or moderate size, should be given radio-therapy. 5. Adolescent goiters, which do not respond within a reasonable time to medical treatment, are benefitted by radiation.

Contra-indications for X-ray. 1. Colloid, cystic, fibrous and nodular goiter. 2. Goiter causing marked pressure without toxic symptoms. 3. Intrathoracic goiters.

Dr. Geo. E. Pfahler says we know and have known for years that the X-ray produces an atrophy in the cells of all secreting glands. The rate of this atrophy varies considerably with the glands, but if we can produce an atrophy in the cells of the glands, we will naturally decrease the secretion. In other words, we will remove part of the gland just as the surgeon removes a part of the gland. We have a better control. We can do it gradually and stop when the conditions approach normal. I think we should never go to the point of reducing this secretion to normal, for a certain amount of atrophy will go on after we have stopped treatment. I have produced a hypothyroidism by X-ray treatment but under thyroid extract, the condition came back to normal, and the thyroid extract was discontinued. Therefore hypothyroidism is one of the dangers one should keep in mind. Outside of the treatment of fibroids of the uterus I know of nothing which has been so satisfactory.

Anatomically, the thyroid gland is somewhat allied to the lymphoid structures, any change in it is often accompanied by an enlargement of the thymus (Kocher found the thymus enlarged in 50 per cent of his operative cases).

Pfahler and Zulick, after a careful review of the literature and study of their cases, reach these conclusions:

1. We believe that the trial of treatment for one series with an interval of waiting of one month is justifiable in all cases, for if operation is decided on nothing is lost, and many operations in this way can be avoided. 2. Treatment should be directed toward the thyroid and the thymus glands. 3. Increase in weight and decrease in pulse are the first signs of improvement and are practically always found. 4. Treatment must not be prolonged over too long a period, or hypothyroidism may be produced. 5. The goiter and the exophthalmos are the last to show improvement, and in many cases show no change.

Means and Aub base their observations on a considerable number of cases treated medically, surgically and by Roentgen ray, and these are their conclusions:

1. The general metabolism shows a characteristic increase in hyperthyroidism. 2. This rise may be used as a functional test of the thyroid activity or as an index of the intensity of the thyroid intoxication. 3. An extended study of the metabolism in various types of toxic goiters shows that:

(a) Rest alone usually causes decrease in toxicity.

(b) Drugs in addition to rest do not materially accelerate this decrease.

(c) The Roentgen ray, in some cases, produces a definite improvement, while in others it seems to be quite without effect.

(d) The usual immediate effect of surgery is a marked decrease in toxicity, but there is a very definite tendency toward a subsequent recurrence.

4. The lesson in therapeutics to be drawn from these results we believe to be about as follows:

(a) Complete rest in bed plus irradiation should be continued until the metabolism reaches a level.

(b) If rest and the Roentgen ray fail to restore the metabolism to within 20 per cent of the normal, it is proper to resort to surgery, unless there is some definite contraindication, such as rising metabolism, which in spite of complete rest, seems to be very important.

(c) Following operation, if the metabolism again increases, further active treatment should be carried out. The observation in the cases that we have followed for a long time emphasize the importance of keeping cases of exophthalmic goiter under observation for months rather than weeks, and preferably years rather than months.

We cannot emphasize too strongly the importance of careful diagnosis and the selection of patients to be treated. If the case is one of thyrotoxicosis, after the second or third treatment the patient usually experiences a feeling of relief from the disagreeable nervous symptoms, the pulse rate becomes lower, and there is a gain in weight. About a year after treatment is begun there should be considerable diminution in the size of the thyroid gland. Exophthalmos never entirely disappears. Except in the more severe cases, the patients have continued their usual habits of life, but we believe that it is of definite advantage to have the treatment supplemented by rest, as in this way the duration of the treatment will be shortened. Usually, at the end of six months the patients are sufficiently relieved to resume their ordinary occupation without difficulty or discomfort. To be sure the relief from symptoms is not so quickly obtained as by surgery, but the dangers are less, and in the milder cases it obviates the necessity of interfering with the daily life of the patient. These are factors which should be considered when deciding as to the form of treatment.

If relief is not obtained by Roentgen ray after several series, or if, for any reason, it is desirable to hasten results, surgery may be recommended. The previous treatment of Roentgen ray will be of benefit, as it reduces the operative risk by destroying the thymus gland. After Roentgen ray treatment some operators have complained of adhesions and increased bleeding at the time of operation, but such has not been the experience of other surgeons.

Summary.

1. It is possible to decrease the activity of the thyroid gland and probably destroy its glandular structure by exposure to the Roentgen ray.
2. Roentgen ray treatment when applied in cases of thyrotoxicosis produces a relief of symptoms and shortens the course of the disease.
3. A study of basal metabolism before, during, and after treatment is of the greatest importance both as a means of diagnosis and as a check on the amount of treatment to be given.
4. The Roentgen ray accompanied by rest, should be tried in all cases of thyrotoxicosis and should be continued for a sufficient length of time to destroy at least the thymus before resorting to surgery.

Discussion.

E. W. Rowe, M. D., Lincoln.—I think Dr. Overgaard has brought before the Association a very complete resume of the present standing of the Roentgen treatment of goitre. His paper is very broad in scope, and I think it covers largely the results of clinical and therapeutic work done in the last few months and years. The Roentgen treatment of this disease dates back to 1905. In the next eleven years, advancement was more or less indifferent; but in 1916 Dr. Pfahler was able to collect 272 papers in all medical literature upon this subject. In the last four years there has been a more rapid advancement, due to the development of the Coolidge tube and the development of technique, until today the Roentgen treatment stands on a firm scientific basis.

I wish to call your attention to a remarkable series of reports from the Massachusetts General Hospital, from a roentgenologist, an internist, and a surgeon. They give us a chance to compare the viewpoint of the three men. Summarizing, the roentgenologists say it is possible to decrease the activity of the thyroid, and probably destroy the gland; that the Roentgen ray relieves the symptoms and shortens the course of disease; and last, that the Roentgen ray, with rest, should be tried in all cases.

The reports from the internists of the Massachusetts General Hospital are more comprehensive. First, using basal metabolism as an indication of the progress of the treatment, they find after three years (they have followed several hundred cases) that the results are the same for surgery as for the Roentgen ray. Second, after surgery, the metabolism shows a rapid fall and then a secondary rise. With the Roentgen ray there is a gradual fall, and no rise. Rest is essential to both treatments, but the surgical cases receive more rest than the cases treated by the ray. The surgical cases do better if rayed first, which does not embarrass the operator or prevent him from making a good dissection. In surgery the risk is greater. The safest thing is Roentgen treatment, with surgery in reserve. In the management of goitre, periodic tests of metabolism give the best indication of improvement.

The third report is a comparison of other lines of treatment with the surgical treatment. This was gotten out by the surgical staff. At the end of three years the results in the treatment are the same. The Roentgen ray produces a gradual improvement, but it is progressive, and if carried far enough, there is no return. Equal cases show equal chances for recovery with surgery as with the Roentgen ray, but safety lies with the ray, because there is a definite high mortality with the surgical treatment.

Harry W. Benson, M. D., Oakland.—I do not think we should let these splendid papers go by without some commendation. Dr. Ballard's paper is the best one we have heard for some time. Dr. Overgaard has given us a valuable paper. We who see some of these patients come in and see the splendid progressive improvement that takes place can appreciate the value of it. I want to urge the men doing general and X-ray work to look into this thing much more carefully, always holding surgery in reserve in cases where there is any doubt. I have seen quite a large number, and the results are splendid. You get a lot of credit out of it if you do the work yourselves. If not, send it to the Roentgen man. I want to congratulate Dr. Overgaard.

F. E. Coulter, M. D., Omaha.—I want to say a word in commendation of the paper Dr. Overgaard has given us.

A good many of these cases drop into the hands of the neurologist, because they are always more or less nervous, and through their friends or physician are very frequently referred to him.

Dr. Overgaard has given us a very comprehensive view of the entire subject. I was very much pleased to hear him emphasize rest. As you know, neurologists are all cranks upon the subject of rest. This is one of the conditions in which rest is most applicable. You can never go astray by giving these patients rest to start with.

So far as surgery is concerned, those who have had some experience with referring patients of this class to the surgeon know that if he is too anxious to operate and operates too early he frequently fails in the way of relief and these patients occasionally come home in a box. So that I speak with a good deal of feeling and a little experience in connection with this question of rest. When we get a patient who is disturbed because of hyperthroidism, it is a question of first putting him to bed and later determining the class to which he belongs, and subsequently treating the case accordingly.

I believe surgery should be held in the background, and we should explain to the patients that their condition can be overcome not infrequently by carefully controlling their activities, thus reducing the hyperthyroid state, and probably in due time effecting a cure. Many of them are very nervous and apprehensive, and when we begin to talk about operation, they go all to pieces. So I want to thank Dr. Overgaard for giving us this broad view of the subject from beginning to end, and heartily endorse all he has said.

Dr. Overgaard, closing: Dr. Coulter brought out one point I did not dwell on—the nervous patient. In giving rays to these patients, the Roentgen ray man must guard against not overstimulating the thyroid. If you give small doses of Roentgen ray you are going to overstimulate the thyroid and stimulate the nervous condition, and apparently you are making your patient worse because you are not using ray enough to overcome that. It is a peculiar function of the Roentgen ray that small doses stimulate and make the patient more nervous.

The Education of the Deaf.*

F. W. Booth, Omaha.

Statistics show that there is one deaf person in every fifteen hundred of the general population, or one-fifteenth of one percent. And as the ratio is necessarily the same among children of school age, there should be approximately two hundred deaf children of school age in the state of Nebraska, or thirty more than are actually in attendance at our school at this time.

Our records give a variety of causes, that is to say, assigned causes, of deafness in our 170 pupils, as follows:

	Pupils
Congenital	78
Scarlet Fever	6
Sickness	4
Cold	3
LaGrippe	3
Adenoids	2
Smallpox	2
Catarrh	1
Earache	1
Kicked by colt	1
Measles	1
Overdose of Chloroform	1
Spinal Trouble	1
Tonsilitis	1
Meningitis	24
Whooping Cough	5
Abscesses	3
Fever	3
Pneumonia	3
Diphtheria	2
Typhoid Fever	2
Congestion of Lungs	1
Measles	1
Mumps	1
Smothered	1
Spasms	1
Strangulation	1
Unknown	13
Not Deaf (hard of hearing)	3

Note that of 170 pupils, 78 are reported by their parents as born deaf. That is to say, 46%, or nearly one-half came into the world without the sense of hearing. With the prevailing ration of one deaf person in every fifteen hundred of population, and with half of the deafness congenital, we have it that one child is born deaf in every three thousand births among the general population.

The question of the transmissibility of deafness, or of a tendency to deafness, is an interesting one in this connection. The fact that of the 170 pupils in our school, forty-four, or one-fourth of the 170, have each one or more deaf brothers or sisters, would indicate that deafness is, in instances, a family or an inherited characteristic, that is to say, the tendency to deafness is transmissible. But may we go farther and say that, not only a tendency to deafness, but actual deafness is transmissible? Yes, within limitations. Of the approximately one hundred and fifty families represented among our pupils, the parents in three families are themselves deaf, and in one of these families the grandparents also were deaf, thus showing the defect persistent in three succeeding generations.

While statistics show as has been stated approximately one person born deaf to three thousand births in the general population, they also show one child born deaf in every one hundred of children of deaf parentage. Thus, while the liability of deaf parents having deaf children is not at all great, it is as thirty to one as compared with that liability in the general population.

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*Read before the Nebraska State Medical Association, May 24-26, 1920.

It is an interesting fact that of the forty-six new pupils admitted in the last biennium, seventeen had deaf relatives, that is, brothers, or sisters, or parents, or grand parents, or cousins, or uncles, or aunts , or great uncles, or great aunts. Also it may be stated the parents of five of the forty-six pupils were first cousins.

The earliest recorded attempts to educate the deaf date back about three hundred years. These attempts were sporadic, that is to say, individual, and scattered in various countries in Europe, but, undertaken as they were always by men of noble purpose and ingenious intuition, their success established the fact of the possibility of the education of persons not possessed of the sense of hearing, and even of those born in that condition.

In the nature of things the first efforts at training the deaf were aimed at remedying the condition of dumbness which is of course the immediate and most obvious result of deafness; in other words, effort was made to give the dumb child speech. It may be said that deafness in no way affects or impairs the vocal organs, and in the large majority of cases the deaf child enters school with voice, and with the vocal muscles in varying degree developed, through their exercise in crying, laughing or shouting. I say in varying measure developed, for in cases, the child voices are weak, in others strong, but in all cases it is quite the rule that the tones or syllables emitted have but a single note or pitch. It is for the teacher to take what the child possesses in his full vocal equipment, and develop and train the various muscles involved to act in unison or in proper sequence in the utterance of the numerous articulate sounds which we call speech. Needless to say, in the child's lack of ability to hear his own voice, the task of the teacher is no easy one. The child without the sense of hearing, unable to hear his own utterances, has to guide him only the senses of sight and feeling, the latter chiefly, with the help of course of the sense of hearing of his teacher. Handicapped is he indeed, for, denied the use of one of his five senses, a sense that the race in its evolution has always depended upon and used in learning to talk, and compelled to develop and train to a new purpose and an unwonted use senses that the race has never before employed for that purpose and use, his handicap is a heavy one. The old coordinations of the so-called speech-center with the nerves of hearing no longer existing, new coordinations must be set up between this same speech-center and the nerves of feeling and of sight.

While the earliest efforts to educate the deaf were of individual cases, and date back fully three centuries, the first regular public school for educating deaf children was established only a little more than one hundred and fifty years ago. This school, founded at Leipzic, Germany, was an oral school, teaching children to speak and educating them in all branches through speech and lip-reading.

While we have little record concerning the methods of this earliest German school, we know concerning them that they were strictly oral, that is, aimed primarily to develop the powers of speech together with ability to read and write the language spoken. Other schools started later on in Germany and other countries soon made schools for the deaf common throughout Europe, and such schools became and are today a part of the schooling provision of every civilized country of the globe.

While all the earlier methods of training the deaf were oral, the difficulties involved in producing intelligible articulation, led workers in instances to look for shorter and easier ways to the goal of education, to education that would give a command primarily of written language, and facility in its use without attempting to give speech.

Thus were set up two classes of schools with two distinct aims and employing radically differing methods, the one class of schools employing oral or speech methods, the other employing what may be termed silent methods. In the silent method schools as an aid to the teacher in giving meaning to written words and sentences being taught, a system of signs, natural as far as possible, but in the greater part artificial, was devised, and it became a veritable language to be used not only for translation purposes, but also for giving general information, the deaf acquiring it to an extent that it served them as a vernacular and in their own restricted social circles as an all-sufficient medium for thought communication. This non-oral, signing method of instruction had its inception in France, and it was and is known as the French method as distinguished from the oral or German method.

The first school for deaf children in America was established at Hartford, Conn., in 1817, one hundred three years ago. Through a peculiar combination of circumstances, the steps of the man sent from America to Europe to learn the art of teaching the deaf, were directed to France, the then hot-bed of manualism, instead of to England or Germany where only oralism prevailed, and he brought back the manual method together with a deaf teacher skilled in the sign language. Thus the manual or sign-language method became the method employed in the Hartford school, to spread to other schools, subsequently established in the various states during the following 50 years.

In the year 1867, an oral school was started in the little town of Chelmsford, Mass., later removed to Northampton, Mass., and there taking the name of Clarke School. The remarkable success of this school in giving articulate language to deaf children soon became a matter of general knowledge in the profession, and from that small single school the oral method spread until it is today the exclusive method of 99 of the 167 schools in the country, and the dominant method in practically all the others, the latest statistics giving it that of the 13,793 pupils in American schools, 11,282, or 81.8% are taught speech and for the most part are being educated through speech, that is to say, without the use of the manual alphabet or the sign-language. Thus it will be seen, a veritable revolution has taken place in the methods employed in our American schools in the last fifty years.

The advantages of the oral over the manual methods, are of course that it gives in addition to a general education, speech and the faculty of reading speech on the lips, accomplishments that are a distinct plus to the deaf person whenever they are through skillful teaching conferred.

It may perhaps be expected that I shall speak specifically of the method or methods employed in our own state school. I may say briefly that the school was established fifty-one years ago in 1869, with a deaf man as principal. Naturally at that period and under a deaf teacher, himself educated by manual methods, the new school was wholly manual in its methods. Some ten years later articulation teaching was introduced with a single teacher giving training to the many children in the school, she able to devote but a few moments to each child in the day, the remainder of the pupil's time being employed under the manual or sign-language method. Speech results by the system were as may be conceived most meagre. Some improvement came later in the introduction of oral classes, so-called, where a mixed system was employed that is to say, speech was taught and used, but the sign language was also freely employed in the same class. The result by this mixed system was that few children acquired really serviceable speech, much less gaining the speech habit, which is in itself an important and valuable acquisition. This mixed or combined system as described, continued with its indifferent speech results, until the meeting of the 1911 legislature when at the instance of interested parents of deaf children in the state a law was introduced and in spite of the strong opposition from the then school authorities, was passed, specifically requiring the employment of the oral method in the school. This law in its main provision reads as follows:

> "All children hereafter admitted to the Nebraska School for the Deaf and all children who have not advanced beyond three years in the course under present methods, shall hereafter be taught and trained in said school by the oral, aural and lip-reading method to the exclusion of the deaf alphabet and sign-language, unless incapacitated by mental defects or malformation of the vocal organs."

This law went into effect upon the opening of the following term of school, in the fall of 1911, with its requirements to be fulfilled by a new school administration in full accord with its aims and purposes.

It will be appreciated that a change of methods used in the school such as was contemplated by the law, could not be effected at once. The older pupils started under the manual method and well on in the course, must of necessity be continued under that method, for method horses can not with profit be changed in the middle of the stream, hence the eight classes graduating up to this year have all been manually taught, and the school only now is ready to send out its first orally educated class, which it will do at the coming commencement in June. The school today, with its enrollment of 170 pupils consists of eighteen classes, fifteen orally taught, and three manually.

In addition to a literary instruction the school provides industrial training to fit the pupils for life, the industries taught being cabinet making, carpentry, painting, gardening, and printing for boys, and house work, plain and fancy needle-work, dressmaking, and all kinds of cooking for the girls. In this connection it may be mentioned, that the whole theory and practice of industrial school training had its inception in schools for the deaf in this country where it was earliest recognized as a necessity that boys and girls should have a training practical in the extreme and one that aims to fit primarily for self-supporting, useful citizenship.

Schools for the deaf it may be observed give the laboratory test to all pedagogic theories, for all devices are in them put to the severest trial, and only the effective survive.

In closing I can not but speak of the interested, appreciative, and helpful attitude which the medical profession in general has always maintained toward our work in the schools. The doctor is the person at once consulted when a child's hearing is first a question of doubt, and in most case advice given points to the special school as the place where the child may, in default of cure or improvement of his condition, have such instruction and training, mental and moral, as shall for all practical purposes restore him to a condition of normality such that he shall become a happy, self-supporting, family-rearing, and, in full average measure, useful member of society. However, cases occur from time to time, where the above advice by physicians is not given, or if given it is for some reason not taken by parents, and deaf children are kept out of school altogether, or until too old to be taught to advantage. We have at present two girls who entered school for the first time in January, one fourteen, the other twenty-nine years of age, and two boys who entered a year before, one sixteen, the other twenty-one. In the case of the fourteen year old girl, court action had to be taken to induce the father to enter his child in school, he making the plea that he was having her deafness treated by his family physician in the hope of cure, an absolutely vain hope in her case. I may say in this connection, that I have personally in my professional experience had to do with approximately two thousand deaf children, and I have never known of a single case of recovery or even noticeable improvement in hearing, nor have I heard of cases in other schools.

May we not then, both the medical and educational profession together accept the physical condition of deafness as practically unchangeable, and proceed on lines, not aiming to restore hearing, but to restore all normalities otherwise, such that the deaf child shall grow up to be trained and educated in the fullest possible development of his remaining powers and faculties, to the making of him into the useful member of society that he may easily become, and that without education it is impossible for him to become. But this means close, interested and active cooperation as between physicians scattered throughout the communities of the state and the school to the end that deaf children may surely and early be given a chance to receive the benefits of instruction and training that the state has in its wisdom provided them. Physicians in the nature of things are in closest touch with and have the fullest knowledge of the defective children in the community, and their advice has always determinative weight, hence their responsibility in guiding parents to early and wise action that will insure the deaf child schooling at the age when he can receive from it the greatest benefit.

The school receives children at the age of six years and they remain under instruction an average period of twelve years covering in that period the twelve grades into which the course of instruction is divided, the last or graduating grade giving training in grammar, advanced arithmetic, algebra, physiology, physics, American, English and Universal History and English literature and composition. They are thus prepared for advanced courses in public high schools or colleges, which courses not a few take up and pursue even to the point of graduation. And in after life they enter upon various and numerous occupations wherein the sense of hearing is not an essential, winning therein for themselves the full average of success in life.

The age of six years seems the best for entering the deaf child in our school, inasmuch as a certain mind maturity is usually present at that age that is absent in younger children. And this age in preference to an age older, because experience has shown the vocal organs to be still plastic at that age and the muscles more evenly developed and developable than later when certain vocal muscles have been through exclusive use in crying, laughing and shouting much over-developed and others through prolonged non-use remain undeveloped, making even development later extremely difficult and in cases impossible. Then the age is favorable for the development, or rather the training, of the remnant of hearing possessed by the pupil. It may be pointed out to physicians especially, and by them to parents who may be reluctant to send their child who has merely impaired hearing to the school, that present day methods, because they constantly use and exercise the hearing possessed, are especially effective in developing or educating it in the understanding of heard language.

Finally, the question arises, how may physicians and the school cooperate most effectively in securing school attendance of deaf children. Assuming interest in the matter on the part of the physician and appreciation of the great alleviative effects flowing from the application of educational processes, it would seem to require only that the physician take upon himself a personal responsibility in securing a sure and early admission of a child to school privileges. This might be done through the instrumentality of the State Board of Health as a part of its requirements in formal reports. Or again, the school itself might in an annual circular or otherwise, make request of every physician in the state that he bear in mind the educational advantages provided by the school, and that he in response should inform the school authorities regarding any child known to him to be sufficiently deaf to require special instruction by them.

And now I would extend to the physicians and all others present a most cordial invitation to visit our school—your school—there to have a demonstration of what we are doing in the work, not of restoring hearing, but of restoring the educational values that come under normal conditions to all possessed of that priceless heritage.

What the State Is Doing for Its Tubercular.*

L. T. Sidwell, M. D., Kearney.

The State of Nebraska maintains at Kearney a hospital of 100 beds for the care of those suffering with Tuberculosis. Its equipment is fairly good, and is constantly being improved. The hospital was opened in 1912 and has admitted since that time nearly 900 patients. The buildings are located on a tract of land about 35 acres in extent. The estimated value of the buildings and grounds at the present time is very close to $140,000. There is one main hospital building which has provision for 50 patients. Another building, known as the pavillion, in which incipient and the better moderately advanced cases are cared for, provides beds for 50 more.

Two buildings are provided for housing employes, over thirty in number. There is a combined boiler room and laundry, besides barns and other needed buildings. Practically all of the vegetables used at the hospital are raised in our garden and besides this we raise a small crop of grain and alfalfa. We also have a number of pigs and chickens. The hospital has a well selected library of 400 volumes made up chiefly of fiction and is supplied with about twenty different magazines. Through the generosity of friends, we are quite liberally supplied with amusements. Some of the citizens of Kearney presented us with a moving picture machine which is used at the present time once each week.

In addition to this we have literary or musical programs almost every week. During the summer the Industrial School, located in Kearney, furnishes us with band concerts frequently.

To those who are unable to pay, the state offers care and treatment free of charge. It, however, expects from ten to thirty dollars per month pay from those who are able, in proportion to their financial circumstances. The actual cost of care and treatment is in the neighborhood of $65.00 per month per patient. As to the treatment we give, I am going to say very little. It no doubt is familiar to the majority of those present. The treatment of Tuberculosis rests on four main points, namely: Rest, Fresh Air, Sufficient Nourishing Food and Mental Contentment. Our results on the whole are good. If we could only secure more incipient or the better class of moderately advanced cases, and the patients would remain with us the required length of time, we could report at least 90 per cent of cures. (as this term is commonly accepted).

Too many of these cases that come to us

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

are far advanced and you know as well as I that this class, as a rule cannot be helped to any great extent. I will have more to say in regard to this matter a little later on.

The next thing I wish to bring to your attention is the most important thing I have to say today. Despite all Nebraska is doing for its Tuberculous it is not doing enough. The doctors in the state should make up their minds to see that the state is awakened to its responsibilities and every one in this Society should cooperate so far as possible in the following ways: First, by taking the best possible advantage of the present facilities; Second, by inducing more people to make application for admission to the hospital. If we had twice as many applicants as we could accommodate the legislature could more easily realize our needs. Third, by educating the people to believe that tuberculosis is curable, if taken sufficiently early; Fourth, insisting on patients taking care of themselves in the incipient stages and continuing treatment until cured —not just a month or two. Fifth: By cooperating with the Nebraska Tuberculosis Association. Sixth: By presenting the tubercular problem to the representative from your district in the State Legislature.

I said Nebraska is not doing what it should for its Tuberclous. Illinois is not old in tubercular work, but they have recently awakened, as the following from the Executive Secretary's Report of the Illinois Tuberculosis Association will show: "Five years ago there was not a single public Tuberculosis sanatorium in Illinois outside Cook County. Today forty counties, by popular vote have made provision for sanatoria, visiting nurses, service clinics and dispensaries." Five years ago there were only four free tubercular clinics outside of Chicago. Today there are thirty-five and new ones being set up every week. Five years ago not a dollar was being spent from official sources for tuberculosis work outside Cook county. Last month more that a million dollars was appropriated by nearly forty county boards for Tuberculosis work, as a result of the activity of the Illinois Tuberculosis Association, and of affiliated societies outside of Chicago and Cook county. From this same report I learn that this is only a beginning as they are pushing the work and are constantly enlarging its scope.

Perhaps Massachusetts is a better example. Massachusetts' population in round numbers is about three times that of Nebraska. They have five State Institutions that care for tubercular cases. These five institutions have a bed capacity of 1444. Nebraska, as I said above, has one hospital with accommodations for 100. If we were doing as much proportionally, we would have 500 beds. In Massachusetts, in addition to this, there are 36 other institutions, such as county, city, or private sanatoriums. In Boston alone there are seven institutions caring for 618 patients. Altogether in Massachusetts there are 41 institutions caring for tubercular cases with a bed capacity of 3470, and besides this there are six new institutions in course of construction. Nebraska should accommodate for nearly 1200 if it were doing as well as Massachusetts.

The doctors in this state have not done their duty fully or Nebraska's Tuberculosis work would be more in the foreground. It is a startling fact to me that there are thirteen counties in this state that have never sent a patient to the hospital at Kearney, namely: Banner, Blaine, Duel, Grant, Hooker, Keith, Loup, Nance, Perkins, Rock, Sarpy, Sioux and Thomas. There are many other counties who have done very little better, 26 having sent only one, and nine only two each. In other words these 48 counties have sent us only 44 patients.

Let me insist that you make application for and insist on incipient and moderately advanced cases going to the State Hospital for treatment. Don't hold your cases at home until they are hopeless. It is not only an unfair thing to the patient to do this; it is unfair to us, and in addition to that it is unfair to other patients who go to Kearney trying to get well. Far advanced cases in a sanatorium tend to discourage the improvable cases. Far advanced cases should be cared for, but let us see that the more improvable cases are cared for first, and then later separate buildings can be provided for the far advanced cases.

I had a woman admitted only a few months ago whose condition was diagnosed by her home physician as moderately advanced. I admitted her immediately upon the doctor's application, as he told me her home surroundings were such that she must have care at once and particularly so if we were going to be able to improve her condition. This case arrived on a stretcher. I saw at once her time was very limited. We did all we could to make the woman comfortable, but she lived less than twelve hours. The trip to the hospital naturally hastened the end, but her case was very, very far advanced, and the doctor who diagnosed her case as moderately advanced, surely could not have been so ignorant as to have thought his diagnosis was right. It is a mistake to send such cases as this. My experience shows that many physicians either do not care to, or for some other reason do not diagnose tuberculosis until the patient has reached a moderately or far advanced stage. I do not mean to say that these men are ignorant of the early signs of tuberculosis. Some of them may be. Perhaps they do not wish to accept them as sufficiently positive to diagnose the case, or perhaps they do not wish to tell the patient that he has tuberculosis thinking that it would be discouraging. I have a case in mind who came to the hospital weighing 88 pounds. She stayed a number of weeks and gained an average of a pound a week. Shortly after she came to us she met a former physician of hers, in fact a man for whom she had previously nursed. She told him she was at the hospital and had been diagnosed as tuberculous. For some reason he did not think it could be possible and offered to take some X-ray pictures. Since he was an old friend she accepted the offer. While at his office he also went over her chest. He finally told this patient she had no tuberculosis and assured her the X-ray showed her teeth were entirely to blame. I later saw the plates of her chest and I thought it showed clearly she had some tuberculosis. It disturbed this patient greatly to be told by this physician and an old friend, that she did not have tuberculosis, and she consulted me in regard to it. I told her that she could take her choice as to which diagnosis was correct. She accepted my opinion and continued treatment, and is very happy that she did, because she is still gaining weight and strength and doing nicely in other ways, although nothing has been done to her teeth. Her health has improved to such an extent, however, that she plans on having some dental work done. Her mouth, I might say, is full of dental work, but some of it will have to be removed.

There is no question as to whether tuberculosis is curable. Practically every case in the early stages can be cured. Teach your patients this. Teach the people in your community this and send us your early cases. You will not be losing business by this. We will restore your early cases to health and they will return to you and be your patients for years to come, grateful to you for sending them to us while there was still hope.

Before closing my paper I wish to present in a brief way the work of the Nebraska Tuberculosis Association. Their work is primarily prevention through education. It has members scattered all over the state. Some of these members are banded together in local societies. All of these people are doing a good work and in connection with these different local organizations, visiting nurses are attached. There should be at least one visiting nurse in every county. It has not, however, the united support of the physicians of Nebraska. More money is needed and the aid both moral and physical of every doctor in the state. The money that is used by the Nebraska Tuberculosis Association, in this work is obtained mostly from one source; namely, the sale of seals at Christmas time. Nebraska did not do over 50 per cent of what was expected of her last Christmas. This means money is lacking. I think every doctor in the state should help at the time these seals are sold and thus furnish the Nebraska Tuberculosis Association money necessary to carry on its work properly.

There are several things that I wish to accomplish by reading this paper. To sum it up, it would be just this: To get the cooperation of every member of the Nebraska State Medical Society. If I can induce every one in the association to take an interest in the hospital at Kearney, I am sure we will have so many friends, and be so well known in all sections of the state that the legislators will hear reports of the good we are doing and of our needs so that they will be only too willing, when our needs are presented at the time appropriations are asked for, to give us all the money actually needed for extension and operation.

Discussion.

M. L. Hildreth, M. D., Lyons.—There was a time when the Kearney institution was thought to be a yellow dog affair. By reason of the fact that some political doctors prostituted it to the use of faking, i. e., turtle serum, a graft affair, promoted by Dunkle and the bank-wrecking discredited politician Lorimer. After hearing this paper and knowing the facts from other sources, I feel it is a duty incumbent upon us all to foster this institution and do all we can to sustain it.

We all know that tuberculosis is curable. All of us know what it means to get those cases in an early stage. I had an experience recently of a young man who came in with some symptoms that were rather suggestive. I finally got a sample of the sputum and said: "You want to go some place where you can be cured. You have tuberculosis." He went to the Woodmen Sanitorium and came back cured. He was a traveling man, but he went into hard work and exposure, and is now dying from his own neglect.

This paper should enlist our effort to foster this institution, and especially to send cases early. We all know what it is in the advanced stages. You can do nothing. The Massachusetts institution is getting just as good results in that severe climate as are Colorado or California, if they go in time. Too often we say "Go away" so we do not have to bury them.

W. H. Wilson, M. D., Lincoln.—I was pleased to hear this paper and learn the start that the institution is getting, more particularly because I feel something like a parent to the institution. In conjunction with the president of this Association, we drew up a bill and got it introduced in the legislature and elicited the assistance of some of the active members of this Association in getting it passed, to provide for the establishment of a state tuberculosis hospital. Kearney was not mentioned in the bill. $100,000 was asked for the establishment of the institution. The legislature would not consider it at all at first, but finally accepted a compromise and gave $50,000. Of course, it was a mere pittance, and it is but little wonder that the institution had a hard struggle to get on its feet.

The last speaker has referred to the early history of the institution and how it got into disrepute, which of course was a matter of great disappointment to those interested in getting it started. But that is ancient history, and we are pleased to hear the report Dr. Sidwell has given of the institution today.

I believe if the physicians of the state would arouse and interest themselves in advertising the institution it would be no trouble to get the legislature to make ample provision for taking care of all indigent tuberculous persons in the state.

I want to say that Dr. Sidwell mentioned a thing I know to be a fact—that it is not well known that the state has a tuberculosis hospital. Even a good many physicians in this state do not know that the state has such an institution. I know this for the reason that the State Department of Health receives letters of inquiry from doctors if there is any place in the state to take care of such persons. Strange that such should be when we recall that eight years have elapsed since the establishment of the institution. I believe it is important that members of this Association from the various communities should speak a good word for the tubercular institution at Kearney, and when they know of persons needing such institutional care, advise them to go to Kearney.

A. S. von Mansfelde, M. D., Ashland.—It has been my honor to have been the first president of the Tuberculosis Society of Nebraska, and this is the first time I have heard it was good for anything. My first impression was, the man who was put there had a crazy idea, and he was trying to demonstrate whether it was good or bad. I have had that impression ever since. I am utterly surprised to find there is a man of thought and knowledge at the head of the institution now who is doing some work; and I want to assure him that from now on, I shall see to it, tuberculous people who have the slightest chance of getting better will be sent to him.

I am an emphatic believer in the cure of tuberculosis. I have seen it cured in all its phases. We have cured tuberculosis, when it was in the bones. We cut the lesion out and cured the person.

It pleases me to have heard Dr. Sidwell, and I am not going to forget Kearney.

S. R. Towne, M. D., Omaha.—I was very much pleased to have Dr. Sidwell mention "County Sanitoria" in other states. I believe our institution at Kearney is doing well, but I believe this county, Douglas, and every other county or vicinity should be allowed to have an institution of its own and provide it with a good head. No doubt there are now in this county or city 200 active cases of tuberculosis. Miss Marshell, head of the T. B. committee here, tells me 422 are reported by the nurses.

One point Dr. Sidwell makes is that the home or Sanatorium must be made pleasant—a very essential point for the cure of tuberculosis. An institution near Omaha, Beatrice or Norfolk would permit each region to maintain the home feeling. It is saying nothing against Kearney, but only reiterating that we should do more. Douglas county should have a first class "Home Hospital" where the family having a patient may live well supervised. Recovery would be more certain and complete, and too the family will be better on its feet afterward. It will live a more healthful life in all ways for its education in the institution.

I hope all physicians will urge patients to go to Kearney; at least until localities may have their own needs supplied avoiding distance and possible homesickness.

Charles H. Fox, M. D., Kearney.—Some of the doctors have spoken of the institution as something of a yellow dog institution. I have been in Kearney for eight years, and rather think at the beginning of that time it might justly be termed that; but the last four or five years there has been quite a transformation, and they treat in rather a different way. Knowing the rest of you know that, clears up in my mind what must be the aversion to sending patients to this hospital. The doctor seldom gets a patient that ought not to have been sent to the undertaker to have the measure taken. Very recently I had a personal experience in the matter. I had a telephone call from the conductor on one of the trains, who said: "Meet me at the train with an ambulance." I was down with the ambulance, and it was a fellow for the T. B. Hospital. I said:

"How are you going to get out there?"

"You will have to carry me out."

"Have you made application?"

"He tried to get in, and they said they could not take them so far advanced as this."

We took him over to the undertaking establishment and kept him awhile. I tried to get him in every institution in Kearney. Finally Dr. Sidwell took him in. I did not know but what I would have the pleasure of taking that man to my own home to die. He died inside of twelve hours.

I am loath to believe the medical men cannot diagnose these cases before they get that far along. I am also loath to believe the medical men will keep men until they get their last dollar under poor home conditions rather than send them to an institution where there is a reasonable chance to control their trouble.

Dr. Sidwell: I am glad everyone took such an interest in the paper. Forty percent of our cases come from Omaha. I am sure a hospital here would be a mighty good thing.

In the cure of tuberculosis, I think climate has very little value. If your cases are far advanced advise them to stay at home. Don't send such cases away for someone else to take care of until they die as that result is inevitable. I hope you will all remember to send us your early cases, and we will do a good job.

The Passing Drunkard.

The Salvation army is one organization that has lost through prohibition. But what has it lost? The drunks who used to occupy its time and money and industrial homes. And is it mourning the loss? It is not.

Now that the alcoholics demand little time or money or space from this great organization, the army will branch out into active work among the drug addicts whose needs are acute and whose cure takes all three. Barracks will be refitted and modernized for the treatment of these unfortunates.

Another activity which hitherto the Salvation army has been unable to maintain as fully as it wished is welfare work among young boys and children. This will now be taken up on a broad scale. Hospitals, too, for the poor and wretched, of whom there will always be many, are projected by that army whose fight is continually waged against trouble and sin. The passing of the drunkard has set the Salvation army free to do all these things.—Norfolk Daily News, Editorial, 9-7-20.

Some Facts and Fallacies of Maternal Feeding of Infants.

Love (Southern Medical Journ.) says that the gross appearance of breast-milk furnishes an unreliable index as to its suitability for the baby. Before pronouncing milk as being too rich in quality, the presence or absence of colostrum bodies should be determined by microscopical examination. The mere fact that milk is scanty in quantity also furnishes no valid excuse for the withdrawing of the infant from the breast, but rather calls for supplemental feedings. Conclusions drawn from examinations of milk chemically are liable to be misleading. The laboratory findings should confirm clinical observation. In influencing the quality of breast milk the maternal dietary, while of some importance, is a smaller factor than causes which operate through the medium of the mother's nervous system.—The American Journal of the Medical Sciences.

Acute General Peritonitis in Infants.

Boss (Pennsylvania State Medical Journal, March, 1920) reports four cases, two of which were males and two were females. The ages were four weeks, eight weeks, three weeks and four months respectivly. Only one case was characterized by persistent vomiting. Neither diarrhea nor constipation were prominent features. All had some elevation of temperature, which was high at the onset. Cyanosis was present in one case and great depression was present in all. The symptom common to all was marked distention of the abdomen with general abdominal tenderness. In all four the peritonitis seemed to be a part of a general septicemia complicating infectious processes elsewhere in the body.—American Journal of Medical Sciences.

Influenza and Pregnancy and the Puerperal Period.

Calderon (Journ. Am. Med| Assn., September 27, 1919) reports 36 cases of influenza in parturient women of which 9 occurred in the puerperal period. It was found that among pregnancy patients, independently of bronchopneumonia, that influenza exerted a very pernicious influence. In patients who were not pregnant it caused menstruation to appear at unnatural periods. The great element of mortality in these cases was lobar pneumonia during pregnancy, while in the puerperal period bronchopneumonia was the cause of death. Among the infants there were seven deaths, including intra-uterine deaths and there was 1 case in which the temperature of the newborn child rose very high.—The American Journal of the Medical Sciences.

"In the army the relation of mental deficiency to the morale may be vital; military crime may have its main cause in mental feebleness. Breaches of discipline may often be explained through mental tests. In a study of the Disciplinary Barracks, cases of desertion were found to correlate positively with low mentality. On the other hand, in a study of conscientious objectors, mental tests showed that they stood above the average in ability."—Arthur MacDonald, Washington, D. C.

Intellectuality produces a kind of long and short sightedness, without the power to grasp an elementary statement of fact regarding the simplest distinction, when dealing with matters inter-dependent for their existance.

Reveling in the domain of mind, men speak or write as they are influenced by mind laws, wholly ignoring or unaware of the fact that mind is a product of brain function.

"He that lives according to nature will never be poor, but he that lives according to opinion will never be rich."

THE NEBRASKA STATE MEDICAL JOURNAL

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Psychology of Disease.

Psychology is a compound word derived from the Greek roots meaning, mind and science. It may, therefore, be defined as the science of the mind and mental processes. Psychology has engaged the attention of philosophers for generations, but until recent years has been purely of academic interest. The medical profession has been rather slow to appreciate the value of psychology in its relation to the practice of medicine. That is one reason why cults have grown up and have assumed to treat the sick without any knowledge of medicine. The physician should, therefore, have some knowledge of psychology because to him it becomes a valuable adjunct in treatment, and is less dangerous to the patient than when utilized by the layman. The influence of the mind on the body has long been recognized. Recent studies in physiology have shown how mental states as anger, fear and worry influence general bodily metabolism. The influence of the physician on the mind of the patient in sickness is also appreciated. Every intelligent physician takes advantage of this in the management of his cases. The success of the physician is often dependent upon his study of the peculiarities of the patient as much or more, than his knowledge of the disease. We all know physicians who while not highly qualified are very successful, because of their ability to inspire confidence in their patients. On the contrary, some physicians highly educated fail because they do not study the idiosyncracies of their patients.

Modern psychologists tell us there are but two primary instincts, not only in man but in all other living creatures. By primary they mean those tendencies to action that cannot be analyzed any further or reduced to simpler terms. These are called self preservative or ego-instinct and race preservative or sex-instinct. Growing out of these two primary instincts there are a number they call secondary, namely, nutritive, motive, impulsive, curiosity, pugnacious, self abasive, self assertive, parental, sexual, acquisitive, and constructive instincts. Instincts involve impulses for gaining the ends they subserve. They imply feeling or a sensation of being affected, striving to attain, also cognitions; or as stated by Barker: "In the exercise of an instinct there is a knowing, a feeling and a striving." These are the traits with which all begin life; and mental development, and behavior are built upon the basis of these instincts. They are slowly unfolded from infancy to maturity. It is a primary instinct of the human infant to cry. Crying precedes breathing. Breathing is essential to life. Later, crying is the call of the tissues for food, or the expression of discomfort or pain. This brings to it, relief by the mother, and the infant more and more comes to realize that the crying means help. When this instinct is encouraged through infancy up to childhood, it leads to selfishness. Later the infant drops its rattle. It is picked up. Again it drops it simply to see some one pick it up again; if not, it cries. In this way there develops what we call the spoiled child. Every mother should appreciate, therefore, that her love for her child unless guided by judgment will in the end cause it to be selfish. Not only that, but in later life the selfishness impairs its usefulness and its happiness, and lessens the will power. All of the instincts require control and guidance in childhood by the parents and teachers, and in later life by the individual.

The subject may be viewed from two standpoints; first, the influence of the mind of the individual upon himself; and second, the influence of the physician over his patient. As an illustration of the former I cite the following incident that came under my observation. A man C. H., because of some pain in his chest was convinced that he had heart disease. One morning he decided to come and see me. He lived five miles in the country. As he started out to drive to my office he lit his pipe. Soon after that the pain in his chest increased and became so severe that he sat down in his buggy for fear he would fall off the seat. As he drove in front of my office he called to me to come out and help him. I went out and tied his team and helped him into the office. He said "It is all up with me!" I replied, "Why, C., you don't look so badly, and your pulse is all right." I hurriedly helped him to undress. He wore a red flannel undershirt and just over his left breast there was a complete circular hole four inches in diameter that had been burned by a spark from his pipe. The skin was thoroughly blistered. When he realized what had happened, he gave a sigh of relief. I saw him many years later and he was still in good health. The blister cured his pain. It was well understood during the war that many soldiers suffered from nostalgia. That this mental depression had a deterrent influence upon their recovery our physicians and nurses understood. They had ample opportunity and exerted a wholesome psychological influence, with beneficial results.

Influence of the Physician Over the Patient.

The physician must first inspire confidence. The patient can only judge by what he sees and hears. He has no means of knowing the attainments of the physician. So, if confidence is to be established, it must be chiefly upon the physician's personality. Having established confidence, the physician is then in a position, by his knowledge of psychology, to influence decidedly the patient's mental state. If in a given case there is found to be no serious condition, and a large number of cases physicians see are not serious, then the physician can inspire hope and place the patient's mental condition in a proper attitude himself. It is a moot question how far the mind can influence pathological conditions; but in functional conditions removal of the elements of worry and apprehension are the most valuable in establishing health. It is just here that the physician has the advantage over the ignorant healer of whatever cult, because he can apply his art truthfully and intelligently. The writer has long felt that physicians are to blame because they have not taken sufficient cognizance of the psychology of disease. The physician is not limited to any method of treatment, he can use drugs where drugs are indicated; he can study and correct the personal habits of his patients; and being educated, he can render better service to his patients, than is possible by any other individual.

H. M. McC.

Cooperation in the Practice of Medicine.

Much advice and criticism have been given to the general practitioner. A plea for greater cooperation must necessitate the emphasis for cooperation on the part of the specialist. It is by no means true that the mediocre men gravitate into general practice. The overwhelming majority in the profession are general practitioners. As a vocation, general practice demands an alert mind, keen sympathy, the best of physical health, tact, and a broad knowledge of human nature. It demands an idealism to give it poise and dignity.

Now and then a case comes which requires a prolonged study to determine the outcome. Such a case needs the attention of one who is trained in diagnostic study. All patients do not require such an elaborate diagnostic study. A little judgment will enable the interrogator to choose those cases which require careful routine and exhaustive search for pathology. The one capable of making such an intensive study is called an internist. He is in a position to use all his own knowledge and training and to call upon any of the specialists whom he may think can help him. If the general practitioner has time to study his case he may in turn call upon the specialist for his diagnostic judgment. It is bad policy for the patient to go directly to the specialist. So often the specialist sees only a narrow field and his opinion will be only partially sufficient and may be injurious to the patient.

The internist today holds the vantage ground in the medical world. No judge or tribunal makes such careful inquiry into the facts, attention to painful details, logical arrangement of the facts, or such deduction of positive data and careful testing of opinions. Deliberately he holds himself aloof from drawing conclusions until he has searched and recorded the records of the anamnesis, the general physical and psychical examinations, laboratory tests, roentgenological examination and intensive examinations in special domains. The internist grasps the fact that he has a problem to solve. His scholarly curiosity leads him searching for the solution. He has a great advantage over the general practitioner for his way has been generally prepared, and his habits of procedure are better established.

Only in a sense does the surgeon occupy so broad a field as the internist. He should be able to make a diagnostic survey, but his deductions are usually quicker and are founded on less inquiry into the welfare of his patient. Will the patient survive the operation? This is the biggest question. To himself he says, I will remove this much pathology and God and some other doctor, usually the general practitioner, can do the rest. The people come to the surgeon paying homage and expecting a miracle. The surgeon may hold the sentence of life or death. Too often he holds his position by popular approval more than by scientific support. The surgeon goes too rarely to the laboratory. The best know only pathology. The application of chemico-physical science is a field for the other fellow. He simply does not think that way. The surgeon should be an architect and not merely a carpenter. He should cooperate with every field of practice. The surgeon is not a superman. His position today is sadly undermined by the erosion of scientific research.

In looking over the galaxy of specialists the first thought that comes is, there are too many. But for what one is there no place? Every fair sized city has one or more representatives of this list. The knowledge required in any one branch is so great that men must spend, in addition to the time for the usual medical training, other years in study and in association with specialists in the line they expect to take up. Depth is sacrificed for width. They often fail to realize the new viewpoint. It is idle to say that the medical profession has over specialized but it is absolutely necessary for more cooperation.

Today the only specialist of standing who goes at once into practice without a general medical training is the dentist. They lack a medical background. They are treating disease processes, which are often a part of a complex of great importance, to the health of a patient. The better men in dentistry concede the need for training in general medicine. With the proper preparation there will be a truer conception of the relation between dentistry and medicine. There should then be greater cooperation by this highly developed speciality.

The lessons to learn are simple. There is a place in the sun for all. The sick should have the benefit of the division of labor. Cooperation between specialists and from specialists to general practitioners is the greatest need of the hour. It may be called an axim that, "The greater the breadth of practice the less the depth." The corollary of this is true also. The spirit of the day is specialization. To this should be added the spirit of cooperation. Every ailment may require medical attention. To do our best for the patient requires not only specialization but cooperation.

E. W. R.

Concerning Reprints.

It has grown to be a general custom among authors of articles in medical journals to have reprints of articles for distribution among those who are not subscribers of the journal in which the articles originally appear. The Publication Committee of your Journal has given considerable attention to the matter of Reprints and has decided that to facilitate handling, orders should be sent direct to the Huse Publishing Co., Norfolk, publishers. The publishers have decided on a full-page magazine style which they are prepared to furnish in three different forms, with extra covers, title page covers and without covers. This size makes a more attractive reprint and is more easily filed.

A solicitation and quotation list is sent out by the publishing company to all authors who have articles in the current issues of the Journal. — F. A. Long, Chairman Committee on Journal and Publication.

Profiteering.

It may be there are men in the medical profession, even among those who are recorded as in good standing in their county society and State Medical Association, who are more concerned about enhancing their commercial receipts, than in the acquisition of knowledge for rendering better service to humanity. Complaint in writing has been made to the Journal for redress from obviously excessive fees in which the creditor quoted "the best men in the profession" as supporting his claim.

It is possible to silence our convictions of a moral injustice by the fallacious statement that "business is business," but in so doing we are apt to drive the shuttle that weaves the web of disgrace to self, and dishonor to our profession.

Clinical Application of Laboratory Findings.

The advance in "laboratory medicine" has been so rapid in the past few years that it has been much beyond the power of most clinicians to properly apply the results to routine practice. A word of caution may not be amiss. Many enthusiastic scientists publish results of experimental work—done largely on lower animals—and draw conclusions or allow them to be inferred, as to application to human pathology which later investigation proves to be entirely unwarranted. Physicians depending too much on innovations in laboratory tests are thus quite likely to be misled in diagnosis. As a result the value of laboratory work in general is liable to suffer in the minds of these disappointed practitioners. There is a distinct need for laboratory workers with experience in clinical medicine, and the indications are favorable that this need is recognized and being provided for in our teaching institutions. In the meantime it behooves us to select with caution any new laboratory fact, ever remembering that at best the result of any laboratory test should only be considered as of value when it is used in conjunction with careful clinical observation. The above warning, however, should in no way be construed as a criticism on laboratory work in general. The standard tests with the assistance they give to diagnosis, simply serve to emphasize the word of caution.

If Our Members would read our advertising pages each month, and be so thoughtful as to let our patrons know we appreciate their patronage, the problem of increasing our income from advertising would be solved.

Our 1921 Scientific Program will cover six half-day sessions during the convention. That plan allows adequate time for reading and discussing about thirty-five papers. On the front cover page of the Journal we announce the place and date of our next annual convention.

Members desiring a place on the scientific program should decide the title of their paper and send with it an outline of contents, to the chairman of the scientific work, 519 McCague building, Omaha, at an early date. The opening exercises, and address by our president, will be the first on the program Tuesday afternoon. Our Constitution and By-Laws designates twenty minutes as the time limit for presenting a paper; more time however, is allowed for the presidential address and orations by the section chairmen. A double-spaced typewritten copy of each manuscript should be handed to the official stenographer by the author, after he presents his paper. All discussions on scientific papers, when transcribed by our stenographer, and corrected by the authors, will be printed with the publication of the manuscript of each author, in our official Journal.

UNIVERSITY NOTES.

The Creighton College of Medicine will open its thirty-first (31) session September 20, 1920, with the largest registration of students since the commencement of the war. The large majority of the entering class have taken their premedical courses at the College of Arts, Creighton University. It is gratifying to record the increase of premedical students in the Art College for it implies a continuity in the purpose and method of training and favors the development of a united spirit—the Creighton Spirit—which we believe is a real factor in the work of our students in school and hospital and gives a character to their lives in the practice of their profession and the service of the community.

Emphasis is laid on the three fold obligation of the physician, integrity, intellectual as well as moral, responsibility and cooperation. It is the duty of the student to learn in order that he may have the knowledge on which the patients of the doctor may rely when they apply for his services. He is personally responsible not only for meeting the qualifications of licensure but keeping abreast of the advance in medical knowledge. Finally it is his duty, and in this record of his profession is less excellent, to cooperate with his fellow practitioners in the advancement of knowledge and the welfare of the community, avoiding personal rivalries and interested politics. A man whose living after all comes from the pains and fees of afflicted humanity cannot well or properly concern himself over much with schemes for personal advancement and personal gain at the expense of those who like him are engaged in the work of mercy and service. We believe that the close contact of instructors and students in the daily round of work favors these purposes; the last, however, is implied in the organization of the classes under their own elected officers who cooperate with the Dean and act as his advisors in the matter of discipline and in all general matters affecting the welfare of the student body.

The curriculum seeks to develop a competent knowledge and skill in the art of medicine and surgery upon the basis of a comprehensive study of the fundamental sciences. To the latter the first two years are largely devoted, to the former the third and fourth years. In the premedical sciences an especial effort is made to inculcate sound methods of work, to stimulate a spirit of inquiry and to lead the student to make his own synthesis of the knowledge gained in the various branches. He is thus led to take a pleasure in intellectual work and to develop a method of study and enquiry which will tend to keep him a student after he has engaged in actual practice. The principles of medicine and surgery are begun in the second semester of the second year, together with physical diagnosis—this with the view of enabling the student to participate in the work of the clinic from the very start of the third year. In the third year is given the bulk of the didactic work in medicine and surgery not without daily contact with ambulatory patients and some of the specialties are begun. This arrangement allows the fourth year to be all but entirely clinical and abundant material is available for personal study. The system of clinical clerks is most valuable. The student comes in contact with the actual work he has to carry on after graduating. He meets the patient as he comes in, gets his history, makes his diagnosis, and if surgical, assists at operation, then follows him through convalescence. The same principle applies to medical cases, by following the instituted treatment. The fourth year is spent in the hospital and the students are known as clinical clerks.

—H. von W. Schulte, Dean.

Eleventh Annual Reunion

Alumni Association, University of Nebraska College of Medicine — October 4, 5, 6, 7, 8, 1920.

Clinics and conferences daily as heretofore.

Well known medical man from afar will give address and clinic.

There will be a Smoker and Banquet together with Entertainment for ladies.

Watch for tentative program.

Your presence will help make this reunion the best ever.

Have you sent in your questionnaire and dues?

A meeting of the representatives of the American College of Surgeons for the state of Nebraska was held at the Fontenelle Hotel Aug. 2. Dr. Franklin Martin of Chicago was present.

The object of the meeting was to organize the College in Nebraska on the same plan as the National organization and to hold a clinical week once a year which will be along the same lines as the clinical week held by the Clinical Congress of the American College of Surgeons. The Clinical Week will probably be held this year in Omaha and next year in Lincoln.

The clinics during the week will be held in the leading hospitals every morning, the afternoons will be given to meetings of general interest to which the laity will be invited, while the evening sessions will be of a scientific nature and at those meetings men from outside the state will be invited to discuss subjects of medical and surgical interest. The affair will be in the hands of an executive committee. The members of this committee are Dr. J. E. Summers, Chairman; Dr. J. Stanley Welch, Lincoln, Vice Chairman, and Dr. D. T. Quigley, Omaha, Secretary.

The annual session of the John A. Creighton Medical College Association held in Omaha, June 2-3-4, 1920, was by far the most successful ever held. Many graduates were in attendance as well as numerous professional friends accompanying them.

A stenographic report of the clinics, as well as the scientific addresses by Dr. D. B. Phemister, Asst. Prof. Surgery, Rush Medical College; Rev. C. B. Moulinier, Pres. Catholic Hospital Association; Dr. H. S. Plummer, Mayo Clinic, is now in the hands of the printer and will be mailed to the alumni at an early date.

Plans are under way for a larger and even more comprehensive meeting to be held next year. The association now numbers about six hundred active alumni.

The University of Nebraska College of Medicine.

The Fall of 1920 marks, with the University of Nebraska, the beginning of a new Era in Medical Education. The recent completion of the South Laboratory building leaves little to be desired in the way of a complete, well equipped Medical plant. This new building houses the departments of Physiology, Pharmacology, Biological Chemistry, Experimental Surgery and the University Free Dispensary, thus providing each of the principal Departments named over 7000 square feet of floor space. The North Laboratory building has been entirely remodeled to accommodate the growing demands of the College. Anatomy now occupies two entire floors and approximately the same space is alloted to Pathology and Bacteriology.

The several departments of clinical medicine have been reorganized through the activities of the Chairman of each department looking toward greater efficiency in teaching and closer correlation between the clinical departments. An ideal arrangement is provided for correlating Dispensary and University Hospital services, and a close relationship exists between the quiz and lecture work of the Junior year and the illustrative clinics in the Dispensary and Hospital. The grouping of Laboratories, Dispensary and Hospital on one campus aids tremendously in conserving the student's time and concentrating his interests.

The University of Nebraska was one of the very first schools to require at least two years of collegiate preparation for the study of medicine. This requirement became effective in 1909. The highest standards of preparation have thus long been held before prospective students and the type of graduate has more than justified the early adoption of high requirements. The University Hospital first opened in September, 1917, has received to date over 5000 cases. The high standard of organization and operation set at the beginning has been consistently maintained. The Hospital stands today a model of its kind, equipped and utilized especially for teaching.

The Medical College Library represents one of the strongest and most distinctive features of the Medical School. Ideally located in a quiet wing of the hospital building and within easy access from the various laboratories it stands as a vital, common interest to the laboratory and clinical branches of medical instruction. The library equipment is modern in every respect. Accessions, cataloguing and indexing are in charge of a competent, expert librarian. The 16,000 bound volumes and more than 10,000 unbound pamphlets, reprints and theses are the result of purchases and acquisitions extending over a period of more than half a century and represent the mature judgment, as to valuable medical literature, of many specialists. There has thus been built up, not only a very valuable research library, but one which offers students abundant opportunities for additional reading and study. One hundred and thirty standard, scientific periodicals are on the regular subscription list.

Incidental to its ordinary functions the library has, in recent years, laid emphasis on the acquisition of material of historic interest, including books and surgical instruments. The library recently acquired over one hundred and fifty rare etchings, copper plate engravings, lithographs, etc., of the great men who were the master minds in medicine.

Fortunately few faculty changes require announcement. Dr. Wilson O. Bridges, former Dean and Professor of Medicine, at his own request becomes Professor Emeritus of Medicine. For his wise counsel, professional skill and unceasing labor on behalf of the College of Medicine, the University owes to Dr. Bridges a great debt. The College is pleased to announce that the acceptance of the Emeritus Professorship by Dr. Bridges does not mean his retirement from active participation in medical teaching or College affairs.

Dr. LeRoy Crummer, for many years Professor of Clinical Medicine, becomes Professor of Medicine. Dr. Crummer brings to the headship of this department an accurately trained medical mind, a deep knowledge of his science and rare constructive and organizing ability.

Additions to the teaching staff during the past biennium include:

John F. Allen, M. D., Clinical Assistant in Medicine.

Elmer Wm. Bantin, B. Sc., M. D., Clinical Assistant in Pediatrics.

Harry Bauguess, B. Sc., M. D., Assistant Instructor in Biochemistry.

Alfred Jerome Brown, A. B., M. D., Assistant Professor of Surgery.

Edwin Davis, A. B., M. D., Professor of Urology, (Chairman of Department).

Sanford B. Gifford, A. B., M. D., Instructor in Ophthalmology.

Abe Greenberg, B. Sc., M. D., Clinical Assistant in Surgery.

John C. Iwerson, M. D., Clinical Assistant in Pediatrics.

Charles Stanton James, M. D., Clinical Assistant in Ophthalmology.

J. Jay Keegan, A. M. M. D., Assistant Professor of Pathology.

Otis Wallace Martin, B. Sc., M. D., Clinical Assistant in Urology.

Frederick W. Niehaus, B. Sc., M. D., Clinical Assistant in Medicine.

Donald R. Owen, B. Sc., M. D., Clinical Assistant in Medicine.

Charles O'Neill Rich, B. Sc., M. D., Instructor in Surgery.

Wm. Lytle Ross, Jr., B. Sc., M. D., Clinical Assistant in Urology.

Carl Frederick Rusche, B. Sc., M. D., Assistant Instructor in Physiology.

Robert James Stearns, M. D., Clinical Assistant in Urology.

Kenneth Levi Thompson, B. Sc., M. D., Clinical Assistant in Surgery.

Joseph A. Weinberg, B. Sc., M. D., Assistant Instructor in Pathology.

The University expects to announce for June, 1921, a continuation of the Post Graduate Course for Practitioners, which was offered in June, 1920. This course, open to all practitioners of the State, is intended to supply each year a review of medicine and surgery from a practical standpoint. The course offered in 1920 was most heartily received by the twenty-eight physicians who attended. The members of the class at the conclusion of the course organized an Association for the furtherance of the plan, and with a view of assisting the Medical College Faculty in planning the details of the forthcoming schedule.

During the past year five annual scholarships of $200 each, were granted the College of Medicine under a Foundation created by the Will of the late Clementine C. Conkling. This Foundation is known as the Jetur Riggs Conkling and Jennie Hanscom Conkling Foundation.

The University of Nebraska, College of Medicine is endeavoring to fullfil its obligation to the people of the State; first, that of training competent physicians for the care of sick; second, the dissemination of medical information to the lay public; third, the affording of opportunities for Post Graduate work in its Laboratories and in the University Hospital, and fourth, the production of Research contributory to the science of medicine.

—Irving S. Cutter, Dean.

GENERAL NOTES.

The first annual reunion of the 89th Division Medical Association will be held in Kansas City, Mo., October 4th, 1920. Arrangements have been made for surgical and medical clinics during the day, business meeting, and banquet with program in evening.

Miss Hulda M. Anderson, former head nurse at the Swedish Mission Hospital returns as permanent head nurse. During her absence she has been stationed at the Naval Hospital, League Island, Philadelphia, until last fall when she secured her release. Since then she has taken post graduate studies in Philadelphia.

The Illinois State Medical Society has taken vigorous hold of the problem of standardization. The director of registration and education. Mr. F. W. Shepardson, has asked the physicians of Illinois for advice and cooperation. This is as it should be. Any attempt by any outside organization to gain control of the hospitals where physicians must work is a bit of insolence which the profession as a whole cannot tolerate.

The hospitals must be encouraged in their proper work of caring for the sick and protected from becoming the feeding or recruiting grounds for any particular group of specialists. The machinery of the State Society is admirably adapted to handle the hospital question. Illinois has set an example which the other states should lose no time in following. — Illinois Medical Journal Editorial, June, 1920.

Warhootchee Areyan, alleged Indian princess and healer, promised Mrs. John Meier that for a consideration of $700 she would cure Mrs. Meier of rheumatism. That was last April. The cure hasn't come yet, Mrs. Meier testified, so Judge R. W. Patrick rendered a judgment of $300 in favor of Mrs. Meier. In order to make the cure "work" Warhootchee had insisted that $300 in advance was necessary.

Warhootchee, who has a similar case pending at Fremont, admitted she could not read nor write, and refused to tell where she gathered the magic herbs that were to make the wondrous cures.—State Journal, Lincoln.

The Clinical Congress of the American College of Surgeons will be held at Montreal, Oct. 11th to 14th, inclusive.

A juvenile home for boys, a state institution, is to be opened at Toledo, Iowa, Oct. 1st, under the superintendency of Dr. A. E. Kepford, formerly Superintendent of the Iowa Tuberculosis Sanitarium. The institution is for the care and education of destitute, neglected, deserted and delinquent boys under the age of fifteen.

Charles Young, who attained fame as the Madison County leper, and who led a miserable existence for some months in a shack erected for him by the county on the Madison County Farm, and who made life miserable for the County Commissioners who unsuccessfully endeavored to get him admitted to a leper colony, solved the problem himself by quietly departing without saying good-bye. Many believe that he did not go penniless.

Free radium treatment for cancer has been made possible by the New York State Institution for the Study of Malignant Diseases, at Buffalo.

A well known insurance company of the Ohio Valley has adopted the policy of retiring local medical examiners who have attained the age of sixty. Those who, like the writer, have been thus "oslerized", as it were, still have enough vitality and mentality left, to tell what they think about this policy, if anyone cares to know.

The American Child Hygiene Association will meet at St. Louis on October 11, 12 and 13th. The preliminary program suggests an instructive and interesting meeting.

Internist wanted to share fully equipped office. Address 416 McCague Bldg., Omaha.

ABOUT THE DOCTOR.

The Lynch Hospital is to be dedicated this month.

Dr. F. S. Coolen, has opened an office at Lodge Pole.

A hospital is soon to be opened at Tilden, by Dr. C. C. Barr.

Dr. Charles W. Jester, Bethany, has located at Doniphan.

Dr. L. Richardson of Stanton has moved to Washington, Neb.

Dr. George Miske has located at Arcadia. He formerly lived at Ord.

Dr. H. A. Wigton of Omaha has returned from an outing in California.

Dr. O. J. Vallicott of Republican City, Neb., has moved to Keenesburg, Colorado.

Dr. J. S. Twinem and family, North Platte, spent the summer on the Pacific Coast.

Imperial is to have a small hospital to be conducted by Mrs. Charles Maranville.

Dr. J. A. Henske of Omaha has moved from 4027 Lafayette Ave. to 1312 No. 40th St.

Drs. Morris Nielsen and L. J. Kilian of Blair have returned from a vacation at Lake Odoboji.

Dr. F. L. Frink and wife, Newman Grove, spent a month with their daughter at Everett, Wash.

One thousand ex-medical corps men are said to have located in Los Angeles since the war ended.

Dr. Roy A. Dodge and Dr. Howard L. Updegraff have moved their offices to 300-305 McCague Bldg.

Dr. Andrew Sinamark is located in Fremont, Nebraska.

Dr. O. R. Platt, of Hebron, announces that he has taken a partner, Dr. F. C. Armstrong, of Omaha.

Dr. A. B. Stratton of the firm, Drs. Stratton and Bell, Exeter, Neb., is taking a rest at Yellowstone Park.

B. H. Harms, D. D. S., of Omaha has returned from attending the meeting of the National Dental Association.

Paul, son of Dr. W. J. Birkofer, Gothenburg, has been named for appointment to the Annapolis Naval Academy.

Dr. E. L. Meredith, of Farnam, has located at Ogallala, having purchased the good will of Dr. Ardiel.

Dr. A. N. Thoms left Odell, where he had been located for a number of years, to locate in Ft. Dodge, Iowa.

Dr. J. H. Regan has become associated with Dr. M. B. McDowell of Chadron in the practice of medicine and surgery.

The Dr. S. A. Campbell Hospital of sixty beds, Norfolk, is nearing completion.

Dr. A. C. Pruner, Toledo, Ohio, is associated with his brother, Dr. W. H. Pruner, in the practice of medicine and surgery in Omaha.

Dr. C. S. McKee recently joined the profession in Nebraska. He is located in Geneva.

Mrs. John C. Black of Chicago, who recently died in Vichy, France, left a million dollars to the Children's Memorial Hospital of Chicago.

Dr. C. L. Mullong, Norfolk, apparently afflicted with the "flying fever", has recently taken airplane journeys to Lincoln and Lake Okoboji.

Dr. G. I. Sellon, Broken Bow, after a six months' course in eye, ear, nose and throat, will devote himself to this line of work in Broken Bow.

Dr. A. J. Ames, a former practitioner of Potter, but for the past two years a resident of Sioux City, has returned to Potter for the practice of his profession.

Dr. Chas. H. Breuer of Lincoln is spending a month on the Pacific Coast, visiting his daughter, Miss Libbie Breuer, who is a Red Cross secertary, in Seattle.

Dr. D. W. Bell has purchased a residence in the Minna Lusa addition, Omaha, and will practice medicine. The firm of Drs. Stratton and Bell dissolved partnership.

Drs. Overgaard, Bliss, Manning, Waters, Powell, Pollard, Wherry, Haney, Johnson, Helwig and Roeder have returned from an outing at Point Pleasant, Madison Lake, Minn.

The annual picnic of the Custer County Medical Society was held in the Humphrey Grove, Aug. 17th.

Dr. A. C. Stokes, Omaha, was the guest of honor and gave an address.

A fifty-pound cake was the feature of a silver anniversary dinner given at the home of Dr. and Mrs. G. W. Fegers, Nebraska City, in honor of their twenty-fifth wedding anniversary.

Dr. Miles J. Breuer of Lincoln resigned his position as Acting Assistant Surgeon for the U. S. Public Health Service. Dr. L. W. Elwood now has charge of that work as a full-time man.

Dr. J. A. Weinberg, formerly connected with the Nebraska University Hospital, and for the past year in Mt. Sinai Hospital, New York, has opened offices in the Brandeis Theatre Building, Omaha.

Dr. R. L. Hart, Amherst, has sold his equipment and good will to Dr. C. W. Hendrickson. He will move to California. Dr. Hart had been serving the Amherst community for twenty-five years.

The firm of Drs. Breuer of Lincoln has added a new member in the person of Dr. Roland G. Breuer, who recently arrived from his hospital service in San Francisco. Dr. Roland G. Breuer has charge of the laboratory.

Drs. E. A. Creighton and Robert S. Mitchell, Red Cloud, have purchased property and are converting it into an up-to-date hospital. Dr. Robert S. Martin, Omaha, has become associated with Drs. Creighton and Mitchell.

The South Omaha Hospital, closed during the past year, has been remodeled and redecorated, and is open for business. It is understood all reputable physicians are to have equal opportunity in caring for patients at the hospital.

Dr. L. O. Riggert, a former police surgeon of Omaha, a member of Base Hospital No. 49 at Allery, France, has accepted a commission in the Navy. He has assumed duties as assistant surgeon in the naval hospital at Bremerton, Washington.

Dr. J. A. Henske, Omaha, Nebraska, resigned as Division Surgeon Mo. Pac. R. R. Co. and was appointed Consulting Physician. Dr. Henske is associated with Dr. H. M. McClanahan, and has limited his practice to Diseases of Children.

MARRIAGES.

Dr. Allison H. Dugdale and Miss Helen B. Davis were married in New York City, July 31. Dr. Dugdale is a former Pawnee City boy now practicing in New York City.

Dr. D. T. Ford, Omaha, and Miss Leona Owens, Sidney, were married at Blair, June 7th.

Dr. James Walvoord and Miss Genevieve Harris were married July 24th, in Lincoln. They will reside in Omaha.

Dr. W. Eugene Wolcott, Omaha, to Miss Alice Becker of Peoria, Ill. Dr. and Mrs. Wolcott reside at 4322 Dodge St.

DEATHS.

Dr. Minerva M. Newbecker, one of the well known women physicians of the state, for twenty-five years a practitioner of Ord, died at Berkeley, Calif., July 24th. Interment was made at the Ord cemetery, August 1st.

Dr. Isaac D. Howard, Harvard, Neb., Electic Medical College of Pennsylvania, 1870; aged 80; died August 26th. He practiced medicine forty-five years in Harvard.

Dr. William M. Gordon, a colored physician of Omaha, died August 5th, aged 54 years.

Dietetic Suggestions.

The narrow confines of the diabetic diet have greatly stimulated the manufacture of so-called diabetic foods. These are often serviceable, but are to be employed with discretion. Their use should be discouraged at the beginning of treatment. The patient should never become dependent upon special diabetic foods, for they are often unobtainable, always make him conspicuous, and when he acquires a disgust for foods of this class it is all the harder to abide by the original diet. When the patient buys one of these foods, unfortunately he is often given a list of other diabetic foods and a new diabetic diet list, and confusion in the diet often results. The patients under my care who have done best either never use special diabetic foods or only a few varieties, such as Akoll Biscuits, Barker's Gluten Flour, Casoid Flour, Hepco Flour, Lister Flour, No. 1 Proto Puffs and Sugar-free Milk.

Substitutes for Bread.

Many of the preparations upon the market contain as great or even a greater quantity of carbohydrate than ordinary bread; a few contain less; but the percentage of carbohydrate may vary from time to time. Patients, and sometimes physicians, forget that substitutes for bread must be prescribed only in definite amounts. A diabetic bread should never be prescribed without a knowledge of its content of carbohydrate, protein and fat.

The bread of one of the largest bakeries in Boston, upon analysis, showed 55 per cent carbohydrate. Bread made without milk or sugar, but with water and butter, contains 45 to 50 per cent carbohydrate. Such a bread is undoubtedly superior to many different bread substitutes upon the market. The percentage of carbohydrate in toast is greater than in plain bread because it contains less water. Some of the coarser kinds of bread, such as rye bread, graham bread, black bread and pumpernickel, contain somewhat less carbohydrate. Never give bread substitutes early in treatment. Teach patients to live without them.

Bran Bread.

Bran is being more and more employed in the diet of diabetic patients. This is neither more nor less than the use of cellulose, and this is supposed to have no effect upon the metabolism. Unfortunately, the availability of the protein, fat and carbohydrate of wheat bran to the diabetic patient has not been determined, although there are plenty of data upon its digestibility by ruminant animals. Bread made of bran alone is not very palatable, though with the fat of bacon or butter it is liked better. It furnishes bulk and acts favorably upon constipation. If made with eggs and butter the flavor is improved. It should be remembered that bran often contains a considerable quantity of starch. For this reason bran biscuits often prove to be a delusion and a snare, and I dread to see them on a patient's tray. In large hospitals where diabetic patients are constantly being treated the danger is less, for the bran is bought by the same person and at the same place; but in private practice this is different. In purchasing bran go to a feed store and ask for coarse bran for cattle and not bran for the table. The various preparations of bran, bran breads and cookies sold under trade names often contain carbohydrate other than bran, hence the reason for their palatable taste; beware of them! They may contain over 60 per cent carbohydrate, of which less than 10 per cent is real bran. Mild diabetics get into little trouble with bran, but the serious ones often suffer. The starch may be washed out with water by tying the bran in a cheesecloth and fastening the same on a faucet. It should be thoroughly mixed and kneaded from time to time to be sure the water reaches all portions, and should be washed until the water comes away clear. This may require an hour.

Gluten Breads.

These breads are made by removing the sugar-forming material from the flour. It is surprising how thoroughly this can be done. I have often found the percentage of carbohydrate in one such flour to be negligible. The large quantity of protein in small bulk which they contain is objectionable.

Light Breads.

French bread cut in thin slices is often useful, because it is bulky, gives the appearance of a large quantity and carries much butter. Manufacturers have taken advantage of this idea, and many light breads are on the market. These breads often contain about the same quantity of carbohydrate as ordinary bread, though few contain considerably less. Their virtue often consists solely in their bulk, which allows a surface on which to spread butter. I seldom advise breads. It is better for the patient to forget the taste.

Various other substances have been used for flour in the manufacture of bread. Thus, aleuronat meal has been employed, and with it have been mixed various vegetable products. A group of casein breads is upon the market in the form of casoid flour and Lister's Diabetic Flour, and to some diabetics these are valuable.

Soy bean is also extensively used, and probably deserves a still wider introduction into the diabetic diet. The carbohydrate in it is unassimilable. It is used in the manufacture of Hepco Flour. Agar agar may be used to dilute the flour or to add to bran and also to relieve the constipation of the diabetic, which is frequently troublesome.

Substitutes for Milk.

A few tablespoonfuls of cream are a great comfort to a diabetic person. Except in cases with a very low tolerance a gill (120 c.c.) of 20 per cent cream can generally be allowed, and if it is desirable to give more fat without increasing carbohydrate and protein, a gill of 40 per cent cream is also well borne. Formerly patients took half a pint of 40 per cent cream readily. With severe cases it is seldom possible to allow more than 60 to 90 c.c. of 20 per cent cream, for the balance of the fat which can be safely employed can more advantageously be taken in meat, butter, oil and cheese. On the other hand, fat having been removed, the chief value of the milk to the diabetic patient is lost. The percentage of sugar in sour milk is not much less than in fresh milk. Recently, sugar-free milks have been put upon the market on a large scale, and many of my patients, particularly children, have found them of distinct advantage. These preparations of diabetic milk will keep from one to three weeks, and are consequently of great value to patients when travelling. As a rule they are concentrated one-half. Consequently they should be diluted before being used. They are so valuable for diabetic patients that I always encourage their use in small quantities at first, so that the patient can become accustomed to the artificial taste and can determine the form in which the milk is most agreeable to him. This is often as equal parts of milk and Vichy C'elestins.

Williamson suggested the following rule

for the manufacture of artificial milk: "To about a pint of water, placed in a large drinking pot or tall vessel, three or four tablespoonfuls of fresh cream are added and well mixed. The mixture is allowed to stand from twelve to twenty-four hours, when most of the fatty matter of the cream floats to the top; it can be skimmed off with a teaspoon easily and upon examination it will be found practically free from sugar. This fatty matter thus separated is placed in a glass." The white of an egg is added to it and the mixture well stirred. Then dilute with water until a liquid is obtained which has the exact color and consistency of ordinary milk. "If a little salt and a trace of saccharin be added, a palatable drink, practically free from milk-sugar, is produced, which has almost the same taste as milk, and which contains a large amount of fatty material. With very little practice the right proportions can be easily guessed, and of course much larger quantities can be employed (in order to prepare a considerable amount of the drink at one time) than those mentioned above."

Rennet may be made from milk, but unless the curd is carefully washed it will contain 2 to 2.5 per cent lactose. When the rennet is made from cream the lactose is materially diminished. Kefir contains approximately 2.4 per cent milk-sugar. Von Noorden says this milk has also been of great help in the treatment of diabetes in children.

Lawrence Litchfield, of Pittsburgh, gives whipped cream to his patients made according to the following rule: Add two ounces of 40 per cent cream to a pint of cold water in a Mason jar and have it shaken vigorously until the cream is thoroughly "whipped". Sometimes a trace of saccharin is added, usually not. "My patients like to eat this with a spoon, but, of course, it can be used in any way that is desired. It contains only a trace of sugar."

The fermented milks contain about half as much carbohydrate as ordinary milk.

Treatment of Constipation.

The bowels should move daily. The coarse vegetables and fruit of the diet may prove quite sufficient, but if necessary, bran muffins made with agar agar may be employed. Never purge the bowels but depend upon an enema or upon simple laxatives, such as aloin, grain 1/5; fluid-extract of cascara sagrada, 10 to 30 drops; extract cascara sagrada, 5 grains, or compound rhubarb pills.

If diarrhea occurs, go to bed, keep warm and drink hot water.

If the patient has not had a movement for several days, at the beginning of the treatment give an enema followed by some simple cathartic or mild aperient, and another enema twelve to twenty-four hours later; but do not purge the patient. Gain enough is obtained if a movement is produced once in twenty-four hours when it has only been taking place once in seventy-two. In other words, do not upset any patient who is in a tolerable state.

Drugs in the Treatment of Diabetes.

Drugs are not recommended by physicians like Professor Naunyn, the Nestor of diabetic treatment, or by those concerned in the recent advance in diabetic treatment in this country.

Drugs are not prescribed with the purpose of lowering the sugar in the urine in the most famous of our large hospitals.

On the other hand, drugs are frequently recommended, I have observed, (1) by physicians who do not determine the quantity of carbohydrates in their patients' diets or the quantity of sugar in the urine, (2) by those who are not connected with large hospitals, and (3) by those who do not have access to well-equipped laboratories.

I wish I knew of a good drug for diabetic patients. It would save me so much time and talk.

E. P. JOSLYN, M. D.

Quality of Acetylsalicylic Acid.

The following brands of acetylsalicylic acid have been found of satisfactory quality and are in New and Nonofficial Remedies: Acetylsalicylic Acid-Heyden, Acetylsalicylic Acid-M. C. W., Acetylsalicylic Acid-Merck, Acetylsalicylic Acid (Aspirin)-Monsanto, Acetylsalicylic Acid-P. W. R., Acetylsalicylic Acid-Squibb, and Aspirin-L. and F. An examination made in the A. M. A. Chemical Laboratory two years ago showed that the product supplied as acetylsalicylic acid was of equal quality with the German made Aspirin Bayer. The Aspirin Bayer now made in America and exploited with misleading claims is controlled by the Sterling Products Company, which sells cascarets, danderine, etc.—(Jour. A. M. A., June 12, 1920, p. 1664).

Program of Third Councilor District Medical Meeting.

The third councilor district medical meeting was held at Table Rock, Neb., Sept. 29, 1920, Dr. R. W. Fouts, councilor. The following program was presented:

Afternoon Session—3:00 P. M.

"Osteomyelitis", Dr. H. R. Miner, Falls City.

"The Occurance of Lethargic Encephalitis in Gage County", Dr. F. W. Buckley, Beatrice.

"The Co-operation Between the State Bureau of Health and the Medical Profession of the State", Dr. I. H. Dillon, Lincoln.

Pneumothorax", Dr. Logan Clendening, Kansas City.

"The County Medical Society, Is It Really Worth While?" Dr. R. W. Fouts, Falls City.

Dinner at Lincoln Hotel, 6:30 p. m.

Evening Session—7:30 P. M.

"Fractures of the Ankle and Wrist", Dr. Harold P. Kuhn, Kansas City.

"Diverticula of the Duodenum, Their Symptoms and Diagnosis", Dr. A. F. Tyler, Omaha.

"Therapy and Malignancy", Dr. E. H. Skinner, Kansas City.

"Accuracy in Urological Diagnosis", (Lantern Slides), Dr. Edwin Davis, Omaha.

"The Estimation of Risk in Operative Goiter Cases", Dr. J. S. Welsh, Lincoln.

Discussions of papers limited to five minutes.

Committe on Arrangements—Dr. E. L. McCrea, Table Rock; Dr. Leo Harmon, Table Rock.

Case Report.

J. W. G.—Aged 30, Male, White, American, salesman. July 18th, 1920, about one P. M. was in an automobile collision and immediately following was found in the bottom of the car in a dazed condition suffering from a laceration of the forehead.

He was brought to St. Joseph's Hospital in an ambulance. He was entirely conscious and mentally clear on admission but complained of dizziness and some headache. There was a semilunar laceration of the forehead about two inches long. This was iodized and sutured.

There was no discharge of any character from either external auditory meatus or from the nose or mouth. Examination of the pharynx showed no fresh blood. There was no discoloration of ecchymosis about either orbit or in the ocular or palpebral conjunctivae.

The case was thought by one of the house surgeons to be one of mild concussion and scalp wound and allowed to go home with directions to remain quiet with an ice bag to the head.

He suffered severely with headache and dizziness but slept fairly well. The headache continued the following day. The morning following this he awoke at five a. m. after a restless night feeling puffy about the eyes and on arising noticed a marked discoloration involving equally both orbits. On blowing his nose a few clots of blood escaped. His headache was much better but he was still dizzy.

On examination at the hospital that morning no tear in the mucous membrane of the nasopharynx nor was any clotted blood revealed. There was no laceration of either tympanum. The fundi were essentially normal. An X-ray of the skull was not requested.

The case presents no difficulty as to diagnosis but though the writer has seen and treated a great number of skull fractures he does not recall a basal fracture in which there was nearly so great a delay in the manifestation of the unmistable signs. Often they are apparent immediately and usually within a few minutes. Personal recollection recalls no case in which the delay was greater than six hours. In this it could not have been less than thirty-six hours.

The only reason for reporting the case is to call attention to the gravity, often times, of what are apparently trivial head injuries. The manifold potentialities of any skull trauma associated with even momentary loss of consciousness should be ever kept in mind. They warrant the most careful watching and enforcement of strict quiet for at least forty-eight hours following the injury.—J. W. Duncan, M. D., Omaha.

BOOK REVIEWS.

Pathogenic Microorganisms. By Wm. H. Park, M. D., and Anna W. Williams, M. D. Seventh Edition. Cloth, Price $6.00. Pp 786. Illustrated with 214 engravings and 9 plates. Philadelphia and New York. Lea & Febiger. 1920.

The seventh edition of this book has been enlarged and thoroughly revised and is even better than the preceding one. As the title indicates, all pathogenic microorganisms, bacteria, yeasts, molds and protozoa are considered. Each pathogenic microorganism is taken up in detail. The chapter on Immunity has been revised and the results of recent investigation included. The chapter on Protozoa treats that subject in a very satisfactory manner. The laboratory methods given are all reliable and of proven value. The book is excellent as a reference work in bacteriology and should be of great value to a physician who desires authentic and clearly stated information along these lines. —J. T. M.

Pharmaceutical Bacteriology. By Albert Schneider, M. D., Ph. D. Second Edition. Cloth. Price $4.00. Pp 441, with 97 illustrations. Philadelphia. P. Blakiston's Son & Co. 1920.

The book is intended primarily for students in colleges of pharmacy, but also for practicing pharmacists. An attempt is made to elevate the teaching and practice of pharmacy to a more scientific basis than it now occupies. This is a decidedly praiseworthy object. Some of the material seems rather irrelevant. For example, a discussion of the endocrine glands seems out of place in a text-book of bacteriology. The material that deals with purely laboratory matters is in general good. It is a pity that the author did not confine himself to this. Several clinical tests, for example, urinary tests for typhoid fever and tuberculosis are given which are not accepted as reliable and may, therefore, lead to considerable harm when incorporated in a text-book. Some of the definitions, for example the author's distinction between contagious and infectious diseases, are somewhat confused. —J. T. M.

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Heart Cases*.

R. B. Adams, M. D., Lincoln.

I do not wish to claim anything original for this paper. It is written solely from the information that I have acquired from a more or less serious study of the work of MacKenzie, Lewis, Norris and Landis, and the application of this knowledge to my own practice.

In the study of heart cases we are prone to hunt for some objective sign such as a murmur, and decide that whatever embarrassment the heart is suffering is due to the cause of this murmur. This may be the case but usually it is not. To understand heart disease the heart must be considered as a whole. Undue weight must not be given to any one symptom or sign. We must consider the effect that certain signs and symptoms have on the circulation. That is, do they predict heart failure, or inability of the heart to maintain the circulation. In the description of heart conditions we should not pick out a certain lesion and assign any certain symptom to it, because first, the organic lesions at best are only imperfectly recognized and heart failure is not usually due to the organic lesion which is present It is usually due to the embarrassment of the heart muscle. This may or may not be caused by the organic lesion. If there is a mitral or an aortic valve lesion present and the heart fails it is commonly said that heart failure was due to mitral regurgitation or aortic stenosis or whatever valve lesion was present. This of course is not the case, the failure may have been precipitated by them. The failure is due to some coincident change which has been going on in the heart muscle. Some of the changes can be demonstrated pathologically and some of them are too subtle to be discovered with our present state of knowledge.

Heart failure is due to some change in the special functions of the heart muscle. It is sometimes one function and sometimes another, and this change can come on with or without gross lesions. The symptoms may be the same in either case.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

When we try to find the essential symptoms of heart failure we must know how the heart acts during work; whether it is able to maintain an efficient circulation in the efforts of daily life. Commonly in our examination of a patient, if we find a valve defect we concern ourselves with, whether compensation is intact or not. We use the back pressure theory of heart failure to back up our reasoning and arguing from this we decide that if compensation is good the patient is in no danger of his heart failing. In doing this we miss the chief idea in heart conditions, for we can and do have heart failure without the compensation breaking and it is for us to find the symptoms which are signals of an approaching failure.

Studying post mortem cases, it soon becomes evident that all the forms of heart failure cannot be correlated with the post mortem changes. We can detect organic changes as valve defects, damaged ventricular bundle, or damaged auricles which produced certain symptoms during life, but the symptoms of heart failure themselves are so varied that we do not understand the mechanism of their production or the laws governing their production. To illustrate, we may get symptoms of broken compensation or angina pectoris and have pathological changes so varied that these symptoms cannot be assigned to any one pathological condition. In fact we have fatal cases of heart failure in which we can find no lesions sufficient to account for the heart failure. These changes may impair the functional efficiency of the heart to such an extent that the heart may fail to do its work and still have plenty of healthy heart muscle left. This must mean that the failure is due to impairment of the muscle function itself, and that the changes are not demonstrable. In maintaining the circulation the heart muscle is the tissue which supplies the force necessary. So long as the heart muscle can do this no symptoms arise, but if something comes which impairs the muscle so that it cannot do this certain phenomena arise and these are called the symptoms of heart failure, and these symptoms may arise in many ways. In considering the force or strength of the heart muscle it is best to divide it into two parts: "The Rest Force and The Reserve Force".

The "Rest Force" is the force necessary to maintain the circulation with the body at rest. When effort is made the reserve force is called on. So long as the reserve force is ample we have a competent heart. When the reserve force begins to fail heart failure starts. If it goes to failure of the rest force then we have a critical condition. Our work then must be to estimate the amount of reserve force left in order to determine the presence and degree of heart failure.

When the heart contracts it does so with all its force. It must then have a period of rest in which to recover. If this period of rest is too short exhaustion sets in. With a healthy heart this takes a long time. It does happen, however, but this heart will recover completely. However, in a damaged heart the exhaustion comes earlier. or in other words this heart did not have a normal reserve force. In estimating the reserve force we can lay down no general rule as to method. We must consider each case individually. The reserve force is increased by training and is weakened by sedentary life. The evidences of exhaustion are of two kinds. Those due to the organ itself and those due to other organs brought about by poor circulation. A person perhaps with a valve defect, works too hard, exhaustion sets in and the symptoms of this at first are subjective. They may be fatal. Later we may get objective signs. When examining our patient the value of each symptom must be kept in mind. As already stated the degree of exhaustion is of first importance. We must place the subjective symptoms above the objective. Never base an opinion on one sign but search for others. An objective sign which is not accompanied by any abnormal symptoms is of no importance. The most important signs are revealed by the patient's sensations. We may have murmurs, irregularities, or a large heart, yet the effort response will be so good that the associated phenomena are of very little importance. The signs of exhaustion of the reserve force are provoked by different parts of the circulation and it is not always easy to tell whether the symptom is of cardiac origin or whether the heart is secondarily affected, as in syncope. The chief symptom of limitation of cardiac response is distress or discomfort in the region of the chest and throat. We get breathlessness, suffocation, tightness or oppression across the chest, or consciousness of disagreeable heart action. The standard between healthy and weakened hearts depends on each individual's peculiarity. There are people who are normally short winded, especially if doing some particular thing. They will do other things all right, consequently we must find the power of response with the individual at his best. We must learn when the limitation first began, and whether its appearance was gradual or rapid. In chronic affections which cause pain we must learn the extent of the damage to the heart. Pain may be due to a damaged heart or a susceptible nervous system. If it is easily produced and continues after rest the heart is damaged. If it comes at one time and not at another and he can work between times the pain is probably induced by some other agent.

The symptoms of heart failure are all the signs due to or exhibited by the organs of circulation. We have to consider more than the abnormal ones, for we often have symptoms which are normal in one patient and are abnormal in another, as for instance, breathlessness which may be a transient affair due to effort or it may be an indication of disease. Likewise a murmur may occur in a heart that is healthy or unhealthy. The physical examination seldom gives us the necessary symptoms. A murmur, an irregularity, or increase in the size of the heart may indicate disease, but does not tell anything as to the heart's efficiency. To do this we must learn the manner in which the heart does its work.

In order to get an understanding of the symptoms of heart failure we must first study the effects of exhaustion upon the healthy subject. We get signs of exhaustion when the heart fails to supply some organ with sufficient blood; this organ of course producing the first symptoms. Usually this is the respiratory centre. It may be failure of blood supply to the heart nervous mechanism, then get consciousness of heart action. If it is a healthy heart it is shown by violence or rapidity of action. If a diseased heart a fluttering sensation from irregular action may occur. If it is the brain which does not get sufficient blood; weariness after mental effort, impaired memory for recent events, or giddiness, which is often transient, may occur. If the ventricle pauses as in heart block we get a transient giddiness. If the pause is longer we get complete unconsciousness, and if long enough, convulsions may come on. Also, we may get various reflex symptoms, such as: when walking at regular gait everything is all right. If hurried or prolonged a sense of weight or aching of feet and ankles occurs and finally pain.

The objective signs of heart failure are familiar to every one. Dropsy which is due to venous and hepatic engorgement. This is usually said to be due to back pressure, but it is probably due to the weakness of driving power. The blood passes through the capillaries at a slow rate, the nutrition becomes impaired and transudation takes place. Also, a venous engorgement occurs causing a dilatation of the tricuspid orifices letting regurgitant waves of blood be sent back through the veins and liver. These are back pressure symptoms, but they only occur in a small percent of the cases and when they do appear the heart failure has reached an advanced stage. The subjective symptoms of heart failure are due, as mentioned above, to the functional impairment of certain organs, and due to the fact that it is first one organ or another. We get a great variation in these symptoms. Breathlessness or air hunger is an intensification of the normal desire to breathe. It compels labored breathing, consequently the term breathlessness includes the subjective sensation and the objective symptom. The respiratory centre acts according to the blood supply or lack of it. It is also sensitive to peripheral stimulation as from the skin. A sense of suffocation may occur. It is a symptom which is hard for the patient to describe. It is usually referred to the upper part of the chest and throat, and the mechanism which produces it is obscure. It is frequent in heart trouble and its appearance may be of slight or serious import, for instance it may come in a healthy heart after prolonged effort and mean nothing, or it may come early in a diseased organ. Some patients are unable to stop breathing. They may shut their mouths and try, but they will breathe through the nose. If the nose is pinched they immediately complain of air hunger. This condition only comes in severe cases. Also we may find a quiet rapid breathing which is free from distress. If the patient is lying down this may be the only symptom of heart failure. It is a symptom of great importance in mitral stenosis, in exhausting diseases as typhoid fever, in the old and weak who have to lie on back from a broken leg or other cause, this occurs. The position favors the left ventricle but hinders the right by restricting the respiratory movement. The breathing then becomes shallow and the blood flow is retarded through the less mobile part of the lungs resulting in a stasis at the base of the lungs. Continuous labored breathing, another symptom, only occurs when the heart failure is so extreme that the reserve force is exhausted. This symptom is best seen in auricullar fibrillation with a dilated heart and an irregular pulse. Labored breathing may only be brought on by exertion. It is common to many conditions besides heart trouble. It may occur in any form of heart trouble and is important in estimating the strength of the heart. Attacks of breathlessness, so called cardiac asthma, usually come at night. Come suddenly and arouse the patient from sleep. Sometimes it is the first sign of serious heart trouble. The patient sits up suffocated; is extremely prostrated, breathing labored and wheezy. He may cough up a frothy phlegm. The attack may last one-half hour or longer, then the patient can lie down but keeps starting up and finally sits up the rest of the night. This condition is most common in elderly people with arterio-sclerosis, and high blood pressure. The heart is usually regular except for a few extra systoles or we may find a pulsus alternans. The cause of this condition is not clear. It is a sign that is grave and is very hard to treat.

Cheyne-Stokes respiration: In all cases with breathlessness we should watch the patient when he is quiet or relaxed. The character of the respiration during sleep should be noticed. We may then notice a Cheyne-Stokes respiration which would otherwise be missed. It is a rhythmical variation in the size of the respiratory movements. First get a complete cessation of respiratory movements. The mental condition is often a blank. Usually, but not always, get a twitching of some of the muscles as the hand or arm. This passes to a period of deep and labored breathing and the patient wakes. In this condition there is usually no material change in the heart action. We may get the pulsus alternans or the blood pressure may fall 5-10 mm. in the apnoeic stage. The patient is usually unaware for it causes no distress, however, it may cause patient to awake with a feeling of suffocation. It is usually due to degeneration of the myocardium or arterial disease, or high blood pressure. It disappears with the fall of high blood pressure when the heart dilates. Haldane & Smith have produced it with forced breathing. They think the periodic breathing is due to the disappearance of the excitatory effects of the want of oxygen in the respiratory centre. In Bright's disease and arterio-sclerosis it is usually the beginning of the end. In heart failure due to auricular fibrillation or flutter, it is not serious.

In addition to the already mentioned symptoms and signs we get certain reflex symptoms. These are of a protective nature to a certain extent. We know that the nerve supply of the body is both cerebro-spinal and autonomic. The autonomic system being made up of the sympathetic and certain cerebral nerves of which the vagus is the only one which concerns us in this paper.

The autonomic system supplies organs which are not endowed with sensation. They can be cut and torn without producing pain, yet severe pain can arise from visceral organs. As for instance, violent contraction of smooth muscle will produce pain, but it is in a different region from the contraction. The mechanism by which this is produced is called the viscero-sensory reflex. If we stimulate a sensory nerve at any point we get the sensation at the brain the same as if the end organ at the periphery had been stimulated. If a visceral nerve therefore, is overstimulated it may affect another sensory nerve from the same spinal segment and be referred to that nerve's end organ as pain. Also, due to the same sort of a mechanism we may have a viscero-motor reflex. If a portion of the spinal cord becomes violently stimulated from a visceral affection it may leave this portion of the cord over irritable, and it is therefore more easily stimulated and the visceral reflex more easily produces pain. Stimuli from other sources may cause pain; such as food taking in gall stones with hyperaesthesia of the body wall over the liver region. The purpose of the visceral reflex is to protect the viscus in question by contracted muscles and to protect it from injury. The pain and sensitiveness of superficial parts in heart affections can be easily understood if we consider the relation which certain sensory nerves have to the heart. In primitive vertibrates the spinal nerves simply run around the body and the upper dorsal nerves supply the body wall and the tissues covering the heart. Later as an arm buds and develops it drags a portion of the nerves of this region with it. Consequently a stimulus from the heart could cause pain in the arm or forearm.

In order to understand these areas of hyperaesthesia in heart affections more thoroughly let us take up the skin distribution of these nerves. The second, third, and fourth cervicals supply the skin of the back of the head, neck, and shoulders. The fourth cervical also goes down the front of the chest as low as the third rib. The fifth and sixth cervicals go to the outer half of the arm, the radial half of the forearm and to part of the thumb. The seventh cervical goes to the hand and fingers and the eighth also goes to the ring and little fingers and to the ulnar border of the hand. The eighth cervical and the first dorsal supply the ulnar border of the forearm. The second and third dorsals supply the inner half of the arm, the axilla and the chest. The fourth and fifth dorsals go over the chest, the latter going as low as the epigastrium. We must remember that each nerve divides into dorsal, lateral and ventral branches just after the junction of the posterior and anterior nerve roots, and that it is the lateral and ventral divisions that go to the arm. The dorsal divisions go to the skin of the back. Now as we see from the distribution of these nerves, if a stimulus affects a series of nerve centres in succession it will pass up the chest and down the inner surface of the arm to the ulnar border of the hand. Also, a pain which arises in the neck and is due to a descending stimulation will go down the chest and down the outer portion of the arm and the radial border of the hand. The areas of pain and hyperalgesia most common in heart affections are most frequently just under the left breast and across the middle of the chest at different levels. At first it may be a small area on the chest but after several attacks it will radiate to the axilla and down the left arm. In some cases the pain may originate in the hand and radiate to the chest. In some people the pain may be restricted entirely to the arm, and in some cases it may be limited to the inner side of one or both elbows. In a few cases the pain may go down the fifth and sixth cervicals; that is up the neck and down the outer border of the arm to the elbow. In chronic cases with dilatation of the heart and enlarged liver we may get an area over the liver and up on to the chest.

Due to the close relationship of the vagus and the spinal accessory we may find on deep pinching that the sterno-mastoid and trapezius muscles are tender. We may even get pain in the head, neck and lower jaw. The pain in angina pectoris is a viscero-sensory reflex. Also, in this condition we get a sense of constriction which is due to a spasm of the intercostals and is a visceromotor reflex. We get angina pectoris with many diversified lesions such as overstrain, aortic aneurysm, aortic valve disease, atheroma of the coronary ateries, a heart weakened by poor nourishment, sudden changes in rate and rhythm, in senile hearts, and in temporary conditions which are of obscure origin. Angina pectoris is due to a condition which is common to all of these lesions. It is usually a late symptom and comes after exertion, excitement, increased peripheral resistance as exposure to cold, or it may come when a new rhythm sets in. The predisposing causes are narrowed coronaries, diminished amount of food in the blood, and a decreased activity of the muscle due to fatty or fibrous changes. Angina pectoris is simply a group of symptoms due to many causes, and not a disease proper. It occurs when the heart muscle meets with a resistance too strong for it to overcome. This may be a healthy muscle contracting against narrowed orifices or a weakened muscle contracting against a normal or even a lowered blood pressure. Also, a long exposure to effort without sufficient rest in a healthy heart may produce it . Angina pectoris is due to heart muscle exhaustion and is associated with dyspnoea, cardiac asthma, pulsus alterans and Cheyne-Stokes respiration, which are other evidences of muscle exhaustion. Identical lesions give rise to different symptoms in different people due to a difference in their reaction to pain stimuli. Angina pectoris in some is due to a trivial lesion, in others it is due to a grave lesion and often a late one. It is either then a sign of heart exhaustion or of a susceptible nervous system with an irritable focus in the spinal cord.

The heart and the nerves can react on each other in different ways than reflexly. The central nervous system may become hypersensitive and we may get nerve origin symptoms more easily. We not only get hyperalgesias but also certain mental states in which the patient becomes nervous and apprehensive. They may have been told that they have a murmur or an irregular pulse or have become conscious of the heart beat and as a result of one of these they become extremely apprehensive, and imagine that some abnormal soreness is an indication of a serious disease. Very often the doctor by not explaining the case fully or by putting too grave a significance on his objective findings also, helps to aggravate them. People with a tendency to nervous debility may develop either a functional or an organic murmur and in these people the reflex symptoms are always greatly exaggerated. People who have some cardiac lesion may develop exaggerated sensory phenomena, especially those people whose reserve force is failing due to overwork and not keeping within their field of cardiac response. In these people the nervous system finally shows in the exhaustion and we get a general breakdown, with extreme development of sensory symptoms. These cases are often diagnosed angina pectoris, but it is due to an exhausted muscle and will disappear when the muscle is restored. On the other hand those who work hard and lose sleep may go into this condition with no organic lesion. They eventually recover but may have to live a quiet life for several years. However, in these cases we must constantly watch for an organic lesion, for there may be developing a slowly progressive lesion of the heart muscle and valves, which cannot be told until even after recovery from the attack. In these cases there are some things that help to differentiate them from those who do not have an overly susceptible nervous system. The pain may not be as severe as in true angina pectoris, but it is more lasting and comes after continued exertion. It may be limited to the left arm especially if that arm is much employed in work.

There may be extreme tenderness of the tissues of left chest and neck, and the pectoralis major and sterno-mastoid muscles. If these are pinched they become very sore and the ache may last for a long time. During the pain they may pass large quantities of pale urine, and an extremely common symptom is air suction with belching.

The vaso-motor symptoms that may occur in heart affections are several. Due to vasomotor spasm the patient's fingers may become numb and cold. This may cause the death of some of the tissues, a true Raynaud's disease. In some toxic cases we may get an over dilatation of the blood vessels to the skin causing a persistent sensation of warmth. In the middle aged or elderly bright red spots may appear on the face, neck or chest. In heart cases where these appear it is an indication of a hypersensitive nervous system. Many will complain of being easily fatigued. If there is a cardiac lesion present it is often called the cause. However, a sense of exhaustion is rarely primarily cardiac. It is usually due to a dilatation of the vessels causing a depletion of other organs as the heart or brain. There is a certain form of angina pectoris due to vaso constriction. It is a rare cause, however. In these cases exposure to cold air will bring on an attack. This produces an increased peripheral resistance, and if there are organic changes in the heart, it will of course aid in exhaustion. Also, there are rare cases which cold produces with the heart normal. What causes these is hard to say.

A class of cases commonly called neurasthenics exist which MacKenzie puts into a group and calls this group the X disease. These people are spare and thin; the face is drawn and lined, or it may be pale or ruddy; the hands are cold and the fingers may be white and numb. These people are always worse on raw days. They may get pain in the fingers on such days. They are dyspeptics and may have red noses. We find dilatation of the stomach and abdominal veins. An inspiratory swelling of the jugulars is common. The heart is sometimes slightly dilated. There may be evanescent mitral or tricuspid murmurs. The rate and rhythm of the heart may vary. It may be slow or irregular. If irregular it is usually respiratory. There may be extra systoles present. Heart failure never occurs. However, the patient becomes frightened and if not handled properly may become a chronic invalid. They often have a slow respiration and a fixed idea that some organ is at fault.

Some of them are sane level headed people and regard their condition as a bother. Others are irritable, peevish, introspective, and become cranks on some subject. They become very enthusiastic over some fad. They go about miserable and suddenly feel better. This may last some time but they usually relapse. They get a firm belief that whatever fad they took up was what cured them. This condition never leads to heart failure. The cause is unknown. In the treatment the patient must be assured there is no heart trouble. Correct whatever is wrong, as a gastric ulcer, constipation, etc. Give them open air and exercise, and get them interested in something. If they are sleepless and inclined to worry use the bromides.

In the handling of heart cases we must of course differentiate between the true heart case and the false. The false cases get well although it may take time. If there is an organic lesion in these cases it may be favorable because it will cause the patient to be careful. If there is a real condition we must determine whether a man must give up his work. The patient's fears must be quieted. One of our most valuable signs for prognosis is the manner in which the heart responds to exertion. In other words estimate the reserve force. If he can comfortably make such exertion as is natural for his time of life then the abnormality is of little importance. If there is a complete breakdown before giving a prognosis wait and see how much recovery takes place.

This enables us to judge the condition of the muscle and the future depends on the ability of the heart to restore its reserve force. The first attack of heart failure is usually recovered from. When there is a limitation in the field of cardiac response the cause must be found if it can be. Some cases are too obscure to give a good prognosis. If the muscle is proved good and the patient is young a favorable prognosis can be given, as these cases always recover to a greater or lesser degree. In treating these cases we must first learn what to treat, for no two patients will present exactly the same symptoms, and each case must be treated with reference to its special requirements. We must not become neuropaths ourselves. Because we give a certain remedy and the patient gets better, we cannot altogether conclude that it was due to the remedy. In all cases heart failure only comes by the exhaustion of the reserve force and this is only noticeable when exertion is made to the full amount of which the heart is capable. So test out the reserve force; then learn what condition caused the heart failure. Learn when he first became aware that his cardiac field was limited. Dig into all the conditions which preceded it such as overstrain, worry, sleeplessness, and infection. Then examine the circulatory system itself. If there is a defect is it the cause of the embarrassment? After learning this our aim must be to restore the reserve force and then to put the patient in such a condition or position that he can lead a life free from discomfort and one of usefulness. Do not treat the patient unless he needs it. As MacKenzie says, "If a man has a wooden leg we recognize his limitations and do not treat him for it", and we should exercise the same good judgment in heart cases. If the lesion is not progressive he may suffer little inconvenience. He should not be limited too severely. If he is young have him choose an occupation that will not tax his heart. If the patient is old with sclerotic vessels have him avoid injurious influences. Again we must not put too much weight on any one symptom, but should search for the accompanying symptoms.

Discussion.

J. M. Mayhew, M. D., Lincoln—I think Dr. Adams has brought a very forceful point to our attention, and I am glad to have it impressed upon me anew. The English report dwelt to such an extent on this reserve supply in the heart, that it reconstructed altogether our idea of dealing with a heart lesion from a physical standpoint.

It was my privilege to see men who had come into the draft with mitral lesions who were able to stand up under the work, drilling, etc., and again my privilege to see them come back with their hearts absolutely uninjured.

The point I think of now that might be well for us to bear in mind in this relation of reserve force, is a radical study of the heart muscle after acute infectious disease, particularly pneumonia. In practically 100 percent of all pneumococcus infections, the myocardium is involved to a greater or lesser extent. This is shown to us clinically by the rapid or irregular hearts which occur for months after the acute pneumonias; the neglect of these hearts leads undoubtedly to great disaster. To my mind, the rule should be made that all pneumonia cases should be under observation for at least ninety to one hundred and twenty days after their infection has left. Carefully tried out exercises should be given in order to determine the reserve force of the heart, making these exercises progressive. If necessary, medicinal treatment should be instituted, together with periods of rest. We have not done our full duty by these cases until we have completed that work.

I want to thank the doctor again for bringing this to our attention.

G. W. Covey, M. D., Lincoln—I enjoyed the paper very much, and want to emphasize two points he made, and also that Dr. Mayhew made.

First is the infection of the heart muscle. In doing a large series of injections of animals with streptococcus from various lesions, many of which came from heart cases, I was not able to produce a pure endocarditis in any of these animals. It was accompanied by a much wider distribution of infection throughout the heart muscle.

When you hear a murmur over the heart, it in itself does not mean anything. If there is disease of the heart there is disease of the heart muscle.

The second point is the examination of hearts. Too many times you see good doctors examine a heart by listening to it. That is not the way to find out about a heart. First, the doctor should have a careful history; then a physical examination, which includes the use of the eyes and hands; and finally, the use of his stethoscope. If he listens first, he gets a prejudiced idea, and does not find one-tenth of what he does if he uses his eyes and hands.

If you have a heart lesion that is giving symptoms because there is deficiency in heart force, if there is any one drug we have to use which will increase nutrition of heart muscles and diminish the excessive work the heart has to do and regulate the rhythm, it is digitalis.

M. L. Hildreth, M. D., Lyons—I have always regarded digitalis as an emergency remedy. I saw a patient in consultation a few days ago who had been taking digitalis for several years, and it was disturbing his stomach, and he finally discharged his doctor. I could not see any need of the digitalis, and advised him to stop it. When compensation is failing, with its train of symptoms, then is the time for digitalis; but I do not think it should be given continuously. It used to be the idea whenever there was anything the matter with the heart, it should be given. I think that is entirely wrong, as to its use in heart troubles. It is to be used only when the heart is failing, to maintain the circulation.

W. F. Milroy, M. D., Omaha—From the time I first began the practice of medicine, it has been taught that the signs do not indicate with any degree of definiteness the degree to which the heart is involved, or the severity of the lesion. We must depend on other things for that.

One point the doctor failed to mention ought to be called attention to. He very well says so long as the heart muscle maintains its nutrition and is able to do its work, the individual is all right and not in danger. But the conclusion I would come to from his remarks is this: If today I see a case with certain conditions existing which indicate the man is in good condition and the heart doing good work, and he is thoroughly capable of maintaining the circulation, I make a prognosis this man may die of old age. I think the error is in this, if I understood the doctor correctly—that a heart that is defective is more liable to fall down than a normal heart, and the prognosis must not rest with the prognosis of the immediate future, but the prognosis for future years.

At the meeting of the medical directors of the large life insurance companies in New York last December, the Medical Director of the New England Mutual Life Insurance Company, who is regarded as very capable, made the assertion he had practiced for three years acceptance of risks for ordinary rates, of persons whose cases were diagnosticated as being functional heart lesions. This selection was by a chosen number of examiners in whom he had special confidence. He said he had discontinued the practice, because he had found the company had suffered from accepting these alleged functional cases of heart disease. So, as I say, if you look to the future, and assure a man who today has some evidence of deformity in the heart, has good circulation, and is able to do good work, that he is just as well off as the normal individual, I think you make a mistake. He may live to be one hundred, but he is more likely to suffer in the future from a failing heart than if he had a normal heart today.

In regard to the work of the army men, I have been interested to know on what ground they reach the conclusions revolutionizing the opinions in reference to these defective hearts. The fact that the heart now is in a state of good compensation, does not prove it will maintain itself for the future indefinitely. We had a case where a young man died at the University Hospital last summer, who had been accepted by the army medical men as normal. He was put through his paces; his heart gave out, and he died. Partial compensation was restored at two different times. The last time it was too much for him.

Personally, I am in a measure "from Missouri" in respect to these sweeping revolutionary conclusions announced by our army surgeons. I confess I am not fully informed upon what evidence they claim to establish their conclusions.

Lucien Stark, M. D., Hartington—I wish to compliment Dr. Adams on his paper, for the extremely sensible and common sense manner that he has presented heart lesions to us for consideration. The paper is not only valuable in the consideration of hearts but in the entire field of diagnosis. There are too many men that have a person who is ill come into the office and upon examination find a murmur and immediately say, "Ah, I have it, here is the trouble", and then go no further. They start the patient on digitalis, or whatever else they are accustomed to using, regardless of whether he needs it or not, never test out the reserve power of the heart, or make any effort to find out if there is anything else wrong with him. They simply think of him as a man with a diseased heart and stop right there and forget that a man with a diseased heart may have something else the matter with him.

I think that the average man who will read this paper carefully and digest it will be greatly benefitted not only in the handling of his heart cases but in his diagnosis generally in people who come to him for medical assistance.

August Anderson, M. D., Lincoln—I compliment Dr. Adams on his paper. I think he outlined the lesions of the heart and the manner of treatment well.

I want to disagree with some of the gentlemen in the treatment with digitalis. I agree digitalis should be used as a remedy in emergencies. The action of digitalis is to contract the muscles, and where we want to stimulate circulation it is very good. By using it indiscriminately it contracts the muscles too much and we have reaction. If we should have to use remedies for a long time, using digitalis and convallaria alternately is better. The latter has the same action, but is not as depressing as digitalis.

In my treatment of heart lesions, I have come to me a good many cases that have heart failure. By a system of massage I can do about as much as with any of the medicinal remedies. Of course digitalis and convallaria must be used in extreme cases. But if there is a weakness of the heart muscle and you have to continue treatment a long time, I can do better with light massage.

When I was on the Medical Advisory Board in Lincoln, there was a case came to us that had a distinct valvular lesion, and we rejected him. In a month's time he came to my office and I gave him a massage treatment and improved him very much. He took two months' treatment. I think massage is good treatment in those muscular weaknesses, and valvular lesions of the heart.

E. C. Stevenson, M. D., Gothernburg—The value of these papers to the average practitioner is not the finesse of certain points, but their practical side. The most important part of this paper to me was the emphasis placed upon the second stage of heart trouble—the stage when we can do something for it.

As to the use of drugs, many of you are more experienced. So far as I have observed, there are two drugs we can tolerate the constant use of by our patients. One is grandmother's senna tea, and the other is thyroid extract for myxoedema. I know of bad results from using too much digitalis. I found some of my heart cases, when I quit digitalis, were better off.

The individual who comes into your office complaining of a little cough and a weak, tired feeling, is too often prescribed for in a haphazard manner —given a cough mixture, and a tonic for "that tired feeling." It is absolutely inexcusable. A careful examination should be made, then prescribe for the proper thing—a heart suffering from the effects of previous infectious conditions, acute infectious diseases, or chronic infection of some sort. Following the "flu," we have had patients who complained of shortness of breath. You would find no heart lesion or pulmonary symptoms. If you go further and take an X-ray, you will find a dilated heart. It has not dilated to the extent of producing lesions, but it is a myocarditic heart.

I remember one man who slipped by us on the examining board for the army. He was returned from camp, and came to me for insurance examination. He had a perfectly normal heart. I put him through a little exercise, and a murmur developed. I found out from his history, he had rheumatic fever when eight years of age. At sixteen he had a repetition of it. Only four years ago he was in bed for two months. Now we have here toxic conditions. He has some rotten tonsils.

It is patients like that who slip by us without proper medication. A thorough diagnosis is essential, and then we can treat our patients successfully, to their satisfaction and our own glory— sometimes, if we follow up with attentive supervision of reaction to the drugs employed.

Dr. R. B. Adams—In regard to digitalis, I agree it is an emergency measure. The best opinion we have today tells us it is of no use in hearts poisoned from acute infectious diseases. The heart being a muscle, naturally is improved by training or exercise in its place, instead of digitalis, in a great many cases. I still maintain the point digitalis is a last resort in most cases. It is used more often when it should not be, than when it should be.

A young farmer came to me a year ago who had been diagnosed as having heart trouble and put on some medicine. He had a pulse of forty, and precordial pain. I told him to go home and throw his medicine away and come back in two weeks and see if he wasn't all right. He did, and was all right.

Dr. Covey mentioned auscultation of the heart. It is probably one of our minor methods of examining the heart. Dr. McKenzie says he thinks the auscultation has done as much harm as good. Our important findings are by our history, our sense of feel and touch, and our eyesight, and the stethoscope and X-ray later.

I do not mean by any means that you can make a prognosis on any case in one examination. You can get your history, and if you get it thoroughly, it will tell you a lot; how long the diseased condition has been present, and whether it is progressive or stationary. Then you must watch in order to test his reserve force. You must observe him. You must watch to see whether it is stationary or not. The history will probably tell you it is. Check it by your observation. So your prognosis is a matter of some time.

As to the life insurance examiner who accepted heart cases, I am not surprised he gave it up. We have five special functions of the heart, and it is interference with one or more of them which causes trouble. This interference may be fatal, and very often is. You don't have to wait to get symptoms from the so-called broken compensation to get into trouble. The functional heart murmur I think is a wrong term. It can be just as dangerous as an organic murmur.

If the patient is in bad shape and must be confined to bed, massage is often the best way to start your exercise.

The Treatment of Broncho-Pneumonia in Infancy and Childhood.*

W. O. Colburn, M. D., Lincoln.

This is an age in which we welcome articles presented in a really scientific manner. We would like to make an exact science of medicine, and we have made progress in that direction, but still we must occasionally fore-go rational medicine for the empirical therapeutics that have always held a more or less important place in medicine.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

This paper is presented with an apology to science, and the treatment to be suggested is not original with the writer, for it has been used many, many, years by numerous great men of medicine. An inventor carefully works out some labor-saving device, which no sooner gets well on the market, than some other ingenious mind betters it. The latter is not the father of the idea, but he becomes the perfector of it. The treatment for broncho-pneumonia about to be presented is not original, except in the manner of its application.

In the treatment of broncho-pneumonia during infancy, most physicians, I believe, will concede that medicine itself is a poor weapon to rely upon. Most drugs are a menace to the digestion of the tiny infant. In fact, a great many physicians have confined their treatment to external applications to the chest, and I am sure that he who has thus treated his pneumonias will show a better record than the one that has forcibly put down a lot of strong medicines.

I wish to present to you a form of treatment that is simple of administration, and that will result in an almost negative death rate. A chart of 200 consecutive cases is herewith appended.

The treatment may be divided into three parts, and in the order of their importance presented: (1) The use of steam, plain or medicated. Steam has been used for laryngitis and bronchitis, and is so mentioned in all the leading works of medicine for a century back, and its use has in most instances been suggested by means of the croup kettle, and to be closely confined for a short time. I have been an early advocate of steam, using it in the first year of my practice, sixteen years ago, for broncho-pneumonia cases, and I learned early that if a little is good, a whole lot is better. The past four years, in my city practice, I have found it very easy to administer the steam night and day, and for several days if necessary. The poorest homes already afford the necessary electrical apparatus. In a few moments we make a tent of part or the entire bed with sheets, leaving the entire side of the bed open on the side under which the steaming apparatus is working. I take the ordinary electric flat iron, turn it upside down between a couple of bricks set on edge, place a pan of water, holding about a quart, on the iron, and open a window. All you need to do is to replenish the water about every two hours. I have had good results with steam alone, but believe that my results are some better with the addition of ten minims of creosote to each quart of water evaporated. Creosote is highly recommended by Holt.

In the country, or where electricity is not available, one may use a croup kettle, with an alcohol lamp, and a smaller tent, and get very satisfactory results. Steam will quickly quiet the most troublesome cough, and within a few hours the labored quick breathing returns almost to normal and the patient is comfortable.

(2) Alkalinization of the patient. This paper will permit of only a very brief discussion of this head. All infections, mild or severe, but much more so when severe, tend to bring about an acidosis. This is more true in the child under four years of age. An acetone odor can usually be detected on the breath of most of these children, if they run the slightest temperature. This is an early danger signal, and one that should be recognized by the physician and treated at once. The child may have been sick twenty-four hours or less, and usually gives a history of not eating or drinking up to normal for the day previous, so that for forty-eight hours, he has been deprived of his body fluids to quite an extent, and all at a time when the demand on these fluids has greatly increased. The physician is very apt at this stage to give a drastic cathartic, sacrificing more fluids, and precipitating an acidosis. Cases presenting this danger signal do better in my experience to withhold the physic, and begin at once to supply fluids by mouth all you can, and if not successful, then per rectum. I still cling to sodium-bicarbonate; plain water may be just as good. If you feel that you must give a physic, then give the milk or citrate of magnesia, and you will at least be administering an alkali. In our pneumonias we make it a rule to administer forty ounces of fluid daily, if not successful by mouth, then proctoclysis is resorted to. We administer enough sodium-bicarbonate to keep the urine alkaline.

(3) Drugs: In beginning cases with few scattered rales throughout the lungs we push belladonna to the physiological limit, drying up the secretions, and throwing the blood to

the periphery. We do believe that many times this has seemingly been a factor in aborting pneumonias. I am not adverse to using it in our severe cases, when the lungs are full of secretions. I have never seen any bad results especially while the patient is breathing steam.

Stimulants are rarely necessary in the pneumonia case under five years of age, when using this form of treatment. The use for stimulants increases as the child approaches puberty, and takes on symptoms much like the adult.

Complications.

The most common complication in infancy, and up to the age of four years is otitis media. An early paracentesis is indicated and often shortens the attack.

Kidneys.

The urine invariably shows diacetic acid and acetone; occasional cases show albumin. Pus cells are present in practically all cases with otitis media. No special treatment other than pushing fluids has been necessary to clear up the urine.

Adenitis.

Cervical adenitis has been frequent enough to deserve mention, but responds quickly to cold applications. Bronchial glands have enlarged frequently in the flu pneumonias, and are easily demonstrated by the D'Espine sign.

Conclusions.

1. The introduction of steam used continuously from twenty-four to seventy-two hours has greatly shortened the course of broncho-pneumonia. It has made the little patient more comfortable and stops the coughing.
2. Keeping up the body fluids is essential in fighting any infection, and is a valuable adjunct in the treatment of pneumonia.
3. Stimulating drugs are seldom indicated in the treatment of broncho-pneumonia in a child five years old or younger, when steam inhalations are being used.

Summary of 200 Cases.

Classification as to ages:

1.	Under 1 year	43
2.	Under 2 years	51
3.	From 2 to 6 years	65
4.	From 6 to 14 years	41

Hours of steam used:

Continuous steam for 24 hours	89 cases
Continuous steam from 24 to 48 hrs.	57 cases
Continuous over 48 hours	54 cases

Deaths:

Case No. 3164—age 6 months.
Case No. 3337—age 9 months.
Case No. 2023—age 3½ years, edema.
Case No. 1789—age 9 months.
Case No. 2303—age 10 months.
Case No. 56—age 2 weeks, edema.
Mortality rate 3%.

Discussion.

H. M. McClanahan, M. D., Omaha.—I am very glad indeed to hear this paper. It is rather a radical departure. We have all known of the use of steam in an intermittent fashion. I have always felt the value of fresh air. I want to ask Dr. Colburn to tell us specifically how he provides for that.

The use of belladonna is not, of course, original with him. I will say as far as I know its value is in the first two or three days. After that I have never been able to see any benefit from it.

I wish the Doctor would answer in closing how many cases develop empyema?

It merely demonstrates to us pneumonia is a general infection with its focus in the lungs, and we must treat the whole child. I am sure he gives the question of diet importance. His results are the best of which I have any knowledge, and I am glad he has brought it to our attention. I think it is worthy of the consideration of all of us.

Newell Jones, M. D., Omaha.—Dr. Colburn said nothing about diagnosis, but gives his records on bronchial pneumonia. I want to impress you do not want to forget these are bronchial, and not lobar, pneumonias, because this treatment I do not feel applies to lobar pneumonias.

On the question of fresh air, I want to mention an article reviewing the work at Bellevue and Roosevelt hospitals in New York. They are now condemning cold air for bronchial pneumonias. It should be warm, and does not need to be so awful fresh, if the air is circulating. Keep it reasonably warm in bronchial pneumonias, and cold air in lobar pneumonias. The point between bronchial pneumonias and bronchitis is what gets me. His treatment applies to either one.

Dr. Colburn, in closing: In regard to fresh air, I insist that the tent be open on one side, and that a window be open so that fresh air constantly mixes with the steam. You will find that the room is pretty warm anyway, and that the window can be well up without making the temperature of the room too low. It is important to have the tent over the electrical apparatus so that the steam remains under the tent.

Dr. Jones answered the question in regard to lobar pneumonias. It is conceded by a great many men that cold fresh air is very good in the lobar, but not good in the bronchial type of pneumonias. Even in our bronchitis cases, as soon as the sun goes down they tend to tighten up. They need warm, moist, fresh air. Belladonna, I think is better in the early stages. I push it until I get a flush if

I see my case early. We have not had any bad results pushing belladonna to the physiological limit. I usually use a tincture but have used atropin with the same results. We have not had any empyemas in our broncho pneumonias, at least, they have been very rare.

We have not had but two or three in the past year and a half. Most of the cases reported were observed at the time of the flu epidemic, when we were seeing broncho pneumonias in most of the cases.

As to the question of making a diagnosis, I think we are as apt to err the other way, and not make a diagnosis of broncho pneumonia, when we think we have only a bronchitis. In these cases we have had rales at the base of the lungs, and a temperature of at least 102.5° before making a diagnosis of broncho pneumonia.

Obstructions of the Lower Urinary Tract.*

Edwin G. Davis, M. D., F. A. C. S., Omaha.
From the Department of Urology, University of Nebraska, College of Medicine.

In considering obstructions of the lower urinary tract, of primary importance is accuracy in diagnosis. During recent years it has come to be a generally accepted fact that the mortality of prostatectomy may be distinctly lowered by proper preoperative and postoperative treatment. It is my purpose to attempt to show that this mortality may be **still further** lowered by accurate diagnosis. And the percentage of poor functional results may be likewise decreased, by painstaking, systematic, general and urological examinations, ruling out, before operation, causes of urinary obstruction other than simple prostatic hypertrophy. In other words, given a case of suspected prostatic hypertrophy, it is of the utmost importance that this diagnosis be established beyond question before operation.

The patient typical of the type under consideration is past middle age, and complains of nycturia, frequency, hesitancy, straining and dribbling—the symptoms of obstruction of the lower urinary tract. Provided that this patient presents on rectal examination an enlarged, bilaterally symmetrical, elastic, unindurated prostate, the diagnosis is simple. It remains then merely to rule out vesical complications (such as stone, tumor and diverticulum), and to determine the patient's renal function and general condition.

Given, however, the same patient presenting the same train of symptoms but **without** typical hypertrophy per rectum, and difficulties in diagnosis at once arise. In this type of case the prostate is often small and fibrous in consistency—even atrophic. Ruling out urethral stricture and the various intravesical causes of obstructive symptoms, the three most frequent sources of error in diagnosis are (1) carcinoma of the prostate, (2) median prostatic bar, (3) lesions of the central nervous system.

Before taking up a consideration of these three conditions, it will be well to mention first the value of the cystoscope in the diagnosis of intravesical prostatic hypertrophy where none may be demonstrated per rectum. Examining the prostatic margin with the cystoscope and studying the relations of the various views obtained as the cystoscope is rotated through 360 degrees, it is possible to determine accurately the presence of intravesical, lateral and median lobes. Errors due to varying positions of lens and prostatic margin, and to the distortion resulting from magnification, are overcome by familiarity with the use of the cystoscope.

Having ruled out benign hypertrophy as the cause of obstruction, we may proceed to a consideration of the three most important sources of error, viz., carcinoma, median bar and spinal lesions.

Carcinoma of the Prostate.

About 20 per cent of prostatic enlargements are carcinomatous. Although this is a well established fact, it is not generally recognized by the surgical profession. Finding 14 cases of carcinoma among 100 specimens of supposedly benign hypertrophy, Albarran (about 1903) was the first to point out the surprising relative frequency of carcinoma. Later (1905), Young reported 68 cases of carcinoma in a series of 318 prostatic enlargements (21 percent). To quote from a subsequent article by Young: "There have been numerous confirmatory publications. The statistics of Oliver Smith give a proportion of 16 per cent; of Davis, 20 per cent; of Kummell, 20 per cent; Pauchet, 20 per cent, and Mullin, 25 per cent. Wilson and McGrath, studying 469 specimens removed by prostatectomy at the Mayo Clinic, found that 15.5 per cent were cancerous."

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There can, therefore, be no question that the proportion is about one in five. Yet the frequency of carcinoma is not generally appreciated.

Early diagnosis depends entirely upon rectal examination. Haematuria is rare, pain is late, and neither is pathognomonic. Carcinoma does not occur as a malignant degeneration of a previously existing benign hypertrophy, nor does it occur primarily in those portions of the gland (the lateral and median lobes) which ordinarily undergo hypertrophy. For all practical purposes it may be said that carcinoma always* arises in the posterior subcapsular lamella or stratum of glandular tissue, which lies just under the posterior fibrous capsule, and which is, therefore, directly under the examining finger. When the two conditions (carcinoma and hypertrophy) coexist in the same gland, which is not infrequently the case, they occur primarily as two separate and distinct processes, the carcinoma later involving the lateral lobes by extension. Although carcinoma arises in the most favorable position for detection by rectal examination, early diagnoses are seldom made, because, until symptoms are produced, the occasion for rectal examination does not arise; because rectal examination is often postponed though indicated; and because the examining finger may easily fail to recognize early carcinoma. The typical "stony" hardness of a well-advanced carcinoma is unmistakable. Any nodule or localized area of induration, palpable in the prostate of a patient past middle age should be viewed with suspicion.

Considering the surgery of prostatic cancer, here, as in cancer elsewhere, the only hope of cure lies in early diagnosis. As stated above, carcinoma occurs primarily in the posterior, subcapsular, lamella or stratum, which portion of the gland does not undergo hypertrophy, which is not removed, and which should not be removed, during the ordinary prostatectomy; and which, in fact, is inaccessible by the suprapubic route of approach. The perineal operation of Young, however, exposing the entire posterior surface of the gland, gives a splendid opportunity for digital and visual examination of this "carcinoma-bearing" stratum, and, therefore, in this route of approach lies the only chance of complete excision.

Ordinarily, in the perineal prostatectomy of Young, the hypertrophied lateral lobes are enucleated through two incisions made in the posterior capsule*, and this latter structure is left undisturbed. In case, however, there is an area of suspicious induration in the posterior capsule this latter structure may be excised with the lateral lobes. Of course the number of cases diagnosed sufficiently early so that cure may be expected from such a simple operation is very small.

The method of radical excision of Young is adapted to moderately advanced cases, where the carcinoma has even begun to invade the region of the base of the seminal vesicles. This operation removes the prostate in toto, including all of its posterior capsule, together with seminal vesicles, ampullae of vasa deferentia, internal vesical sphincter and a portion of the trigone. In closure, the bladder incision is sutured to the stump of the membranous urethra. By this radical operation, Young has obtained cures of several years standing, and with normal urinary control, in spite of the loss of the internal sphincter.

In case the carcinoma is too extensive for any hope of complete excision, even by the radical method, partial or incomplete perineal prostatectomy may be performed, whereby no attempt is made to remove more than the hypertrophied lobes, together with a sufficient amount of the carcinomatous tissue to relieve the existing obstruction. The wound-healing here is ordinarily as rapid as following simple prostatectomy. As is well known, carcinoma of the prostate grows very slowly. After relief of obstruction, these patients are symptom-free and have normal urinary control. They may live for a period of two or three years (in some cases much longer) with no symptoms of recurrence, and finally die of some other cause. This procedure, which offers a few last years of comfort, is therefore well worth while.

Of recent years there has been widespread publicity as regards the necessity of early diagnosis of cancer. The intelligent woman no longer postpones an examination of a lump in the breast or an investigation as to the cause of vaginal bleeding. Unfortunately, with carcinoma of the prostate the problem is not so simple because the gland is inaccessible and because the lesion in its early stages is symptomless, and for this reason the few cases which come to surgery early are discovered accidentally by rectal examination, or because associated with an obstructing benign prostatic hypertrophy. Considering the frequency of prostatic carcinoma and considering the possibility of early complete excision, why should not the day come when the average intelligent man past middle age will recognize the danger and even though free from symptoms, take enough interest in his own future health to have rectal examinations made at long intervals? It is unnecessary to add that rectal examination should always be a part of every complete physical examination.

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*In a study of 111 cases of prostatic carcinoma, Young found one case where the carcinoma was located in the region of the anterior commissure, and this was the only exception where it could be positively shown that the primary growth had been elsewhere than in the posterior subcapsular stratum.

*The term "posterior capsule", as here used, includes the true fibrous capsule, together with the underlying, subcapsular lamella or stratum of glandular tissue, which is anatomically distinct and separate from the glandular tissue of the lateral lobes.

Median Prostatic Bar.

Under this heading may be grouped those cases where prostatic obstruction exists without demonstrable prostatic enlargement, either benign or malignant, and hence aptly termed by the early French writers, "prostatisme sans prostate". The condition is also referred to as contracture of the vesical orifice, and as stricture of the posterior urethra. Considering the similarity of the symptoms to those of prostatic hypertrophy, and considering that the lesion is truly obstructive in character, often causing large amounts of residual urine, it is not strange that the diagnosis is frequently confused. It may be said that this diagnosis is arrived at by exclusion, because rectal examination reveals a normal-sized or a fibrous atrophic prostate, while cystoscopy shows no intravesical prostatic hypertrophy, no sign of tabes, no stone, tumor or diverticulum or any other easily apparent cause for obstruction. The patients are often young men under the average prostatic age. Careful cystoscopic examination of the prostatic orifice may reveal a prostatic median bar, which appears as a slight, rounded, convexity, visible posteriorly, and partially obscuring the trigone. The amount of elevation of the posterior prostatic margin in these cases is always a matter of opinion, and correct interpretation may be made only by one familiar with the use of the cystoscope. Added evidence may be obtained by recto-urethral palpation, that is, by rectal examination before removing the cystoscope from the urethra. It it thus possible to estimate, between the finger and the shaft of the cystoscope, the thickness and consistency of the tissues at the posterior prostatic margin.

As to the pathology of this condition, the most characteristic finding is an inflammatory infiltration, with fibrous tissue formation, either in the mucosa or the underlying glandular tissue, and occasionally in the musculature. Some cases show a distinct, typical hypertrophy of the submucous glands, involving either the suburethral or subtrigonal groups, but there is no lateral lobe hypertrophy.

Various operative procedures for this type of obstruction have been devised. Prostatectomy is often done on account of an error in diagnosis. It is needless to say, however, that to submit the patient to a major operation is unnecessarily radical. Furthermore, those who have attempted it know that to remove a small, fibrous, chronic inflammatory prostate, with little or no glandular hypertrophy, is a very difficult, unsatisfactory procedure; and the operative results are not good. On the other hand, to fail to recognize the obstructive character of this lesion, and to omit treatment because an enlarged prostate cannot be demonstrated, is an equally serious error in the opposite direction. The constant presence of a residual urine, even in small amounts, is always a menace.

The most satisfactory treatment is offered by the "punch" operation, which is an intraurethral excision, performed with a special instrument devised by Young. A large percentage of complete and permanent cures may be obtained by this simple procedure, which may be carried out under local anaesthesia, and which confines the patient for only two or three days.

Lesions of the Central Nervous System.

Non-traumatic cord lesions producing bladder symptoms in patients past middle age are almost invariably the result of syphilis of the central nervous system. Since urinary disturbance is not infrequently the solitary complaint in beginning tabes, these patients are often seen early by the urologist. Here again, the symptoms are very similar to those of prostatic hypertrophy, and the patient ordinarily has a large residual urine. The diagnosis is usually simple. The patient may give a history of a primary lesion in past years. His general physical examination may reveal atypical pupils or reflexes or oth signs of tabes, or the Wassermann reaction may be positive. There may be an associated disturbance of the sphincter ani, with more or less incontinence of feces, and recognizable on rectal examination as a distinct relaxation. The cystoscopic picture is often diagnostic in itself. The typical case has a dilated internal vesical sphincter which permits clear vision after withdrawal of the cystoscope into the posterior urethra, so that the verumontanum may be seen. Normally this is impossible with the ordinary, indirect-vision cystoscope. Trabeculation of the bladder wall is suggestive but not typical. Suspicion may be confirmed by spinal puncture.

It is not necessary to point out that accurate diagnosis in this type of bladder lesion may prevent prostatectomy in cases where the gland is not responsible for the symptoms, and where there is, therefore, no reason to expect relief following prostatectomy. These patients, with large amounts of residual urine, are exposed to the same danger of impairment of renal function as are cases of true mechanical obstruction. With intensive antiluetic treatment, and with interval catheterizations and dilatations of the posterior urethra, the lax bladder musculature is given an opportunity to regain its tone, so that remarkable results, in the way of disappearance of the residual urine may be accomplished.

Summary.

There are a number of causes of urinary stasis, symptomatically resembling benign prostatic hypertrophy, the careful preoperative differential diagnosis of which will greatly reduce the mortality and improve the late results of prostatectomy.

The three conditions most frequently mistaken for prostatic hypertrophy are carcinoma, median prostatic bar and lesions of the central nervous system.

Since 20 per cent of prostatic enlargements are carcinomatous, too great emphasis cannot be placed upon the importance of rectal examination, which is the only method of early diagnosis. Any localized area of induration in the prostate of a man past middle age should be viewed with suspicion. Early diagnosis gives opportunity for cure of an otherwise hopeless condition by complete radical (perineal) excision. Even in far-advanced cases, symptomatic relief may be obtained by partial perineal prostatectomy. Those patients have normal urinary control.

The obstructive symptoms caused by a median prostatic bar may be removed by intraurethral excision under local anaesthesia. Prostatectomy, for this condition, either through mistaken diagnosis or for other reasons, is not only unnecessarily radical but is a difficult, unsatisfactory procedure, without promise of good functional results.

Early tabes is a frequent cause of bladder symptoms, and it is of importance to rule out this condition in patients where prostatectomy is under consideration. The cystoscopic picture is usually diagnostic.

C. C. Johnson, M. D., Lincoln—I believe Dr. Davis is preaching a gospel we should all sit up and imbibe, and that is the seriousness of any case of residual urine.

Fifteen years ago we said every case of appendicitis should be operated upon. It has taken that long to get the profession and the laity educated to that idea. Now we are going to have the propaganda of getting the laity to realize the seriousness of residual urine. Day before yesterday I saw a man who had symptoms of residual urine for months. He had paid little attention to it until he could not pass his urine. He went to a physician who catheterized him and told him to go on home. The next day he was catheterized again, and was told he had better look after the matter. The next evening he was in coma, and if he isn't dead by this time I am surprised. It brought home to me the teaching Dr. Davis has been giving us of the seriousness of residual urine. I believe we are all neglectful. We temporize with it, and I believe it is a condition that should not be temporized with in any way.

A. J. MacKinnon, M. D., Lincoln—If one prostate in every five is malignant the causative agent of cancer is more considerate of the prostate than of any other organ in the body. It is a well recognized surgical principle in the treatment of cancer that sectioning the tumor, even for a microscopic examination, lowers the percentage of cures.

Perineal prostatectomy, where the surgeon inserts a great big piece of cutlery through the prostate and pulls it down and removes the prostate piece meal, and even leaves part of it attached to the prostatic urethra, is against all teaching of the surgical treatment of cancer in other fields.

Even if it is more benign it is the best argument in favor of the suprapubic operation and removing the prostate in one piece. I have a suspicion that a malignancy of the prostate is more often a laboratory diagnosis than a clinical disease.

Dr. E. G. Davis—As to the relative frequency of carcinoma, this 20 per cent figure is based on statistics. Albarran first called attention to this and placed the figure is low as 14 per cent. He was challenged then. It has since been conclusively demonstrated by several statisticians that the figure is 20 per cent, and perhaps even 21 or 22 per cent.

As to the suprapubic route of approach in carcinoma of the prostate, it is impossible to remove all of the carcinoma this way, for the simple reason the posterior capsule is inaccessible by the ordinary enucleation.

As to the benign nature of carcinoma of the prostate, I can agree with Dr. MacKinnon, because it is a well recognized fact that carcinoma of the prostate grows very slowly. It is for this reason that after a partial enucleation the patient may live from three to five years without knowledge of the existence of carcinoma.

In closing, the point I wish to emphasize is the importance of accurate, exact diagnosis—the decision as to the exact condition before operation, and the determination always of the cause of residual urine and the relief of same, in view of our knowledge of the results of allowing residual urine to continue.

Adynamic Ileus.*

Czar C. Johnson, M. D., Lincoln.

Introduction.

It is a sad commentary that notwithstanding repeated admonitions the death watch for ileus is posted with far too persistent regularity, and in most instances without justification. Constant reiteration may lessen the occurrence. It is with that thought in mind that I present the subject.

Definition.

I shall confine this paper to the adynamic type of ileus, which is characterized by toxic obstipation, primary fever, rapid pulse, retrogressive reflex vomiting with no audible or visible peristalsis. It has been my experience that this form is more frequently not anticipated than the dynamic and mechanical varieties.

Physio-Chemistry.

If one visualizes the intestinal tract as a tubular, muscular and secretory organ, keeping in mind the visceral, vasomotor and secretory mechanisms together with endo and exo-enteric toxins under given conditions, he can more clearly conceive what occurs and why the symptoms and end results are definite.

Cause.

It is not my purpose to tire you with a detailed recitation of the causative factors but rather to state in a general way a number of the more common conditions which may be forerunners of adynamic ileus. Acute infectious diseases, affections of the mediastinum, gall bladder tract, kidney, pelvic organs, uremia, spinal cord lesions, appendicitis, local and general peritonitis whether due to cryptogenic infection or the perforation of a hollow viscus, embolism, thrombosis, septicaemia and in every celiotomy especially if faulty technique occurs, a potential adynamic ileus is present requiring only a spark to produce an explosion resulting in a relative or absolute ileus.

In this list should be placed mechanical ileus and intestinal strangulations, for the final stage of these conditions if untreated presents an adynamic state of the bowels.

Prophylaxis

I know of no scene quite so depressing as the finale of ileus. The impression should serve to keep in mind contributary causes, for by so doing one will be in a healthful state of anticipation insuring prophylactic measures where possible and in the event of a supervening ileus an early recognition is assured.

Under prophylaxis the only fixed rule that is applicable is to study every preliminary condition wherein a possible ileus may be a complication. It is surprising how frequently diaphragmatic pleurisy is incorrectly diagnosed and treated. Uremia is often overlooked. When recognized suggests the proper line of treatment. Embolism and thrombosis are two erratic characters and although every reasonable precaution may be exercised are apt to present themselves unceremoniously but aggressively. Gall bladder area affections, renal calculi and infections, pelvic infection, mesenteric pathology, appendicitis, perforations of visceral organs, intestinal strangulations, mechanical ileus and spinal cord injuries are essentially surgical affairs. The responsibility rests upon the physician, who first sees any malady, to render efficient service, to recognize grave possibilities, to be true to his convictions and to institute proper treatment. And by the same token the surgeon has his share of responsibility in those cases wherein surgical pathology is the primary cause, whether he sees the patient early or late in the development. He must be more than a diagnostician, more than dextrous and aseptic; he must apply the physiological laws of the inhibitory splanchnic nerves and the accelerator action of the vagi, both subject to the effects of fear, anxiety and kindred emotions. He must remember the vaso-motor mechanism of the gastro intestinal tract maintaining a keen appreciation of the effects of cold, heat, and trauma.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

Permit me to digress long enough to say that I believe that the results of trauma are to be feared as much as infection for in addition to the effect upon the sympathetic nervous system, histological and mechanical end results, I am confident that post operative pneumonia is due to direct blood infection, at the site of the operative field.

Treatment.

In the treatment of ileus one's judgment of values is put to the acid test. If after the judicial use of morphine, pituitrin, eserine and like agents, or if seen late regardless of what the previous circumstances may have been when in the face of a progressive toxemia the real issue is to save life. Strategy must supplant tactics. The patient's last reserves are rapidly being expended. Increased shock, trauma and procrastination are disastrous to the party most vitally concerned. Under these conditions I am of the opinion that the proper procedure is a high jejunostomy.

Surgical Technique.

I shall briefly state the technique recommended. First—Under local anaesthesia, I wish to emphasize **local;** open the abdomen by an epigastric incision to the left through the rectus. Second—Upon reaching the abdominal cavity pass the finger downward and inward over the upper pole of the kidney to the third lumbar vertebra, hook up the intestine and bring it up to the incision. You should have the first eight inches of the jejunum, it may be recognized by its thick feel and upon inspection identified by its closely running parallel mesenteric vessels. Place a stay suture of silk in a manner to be later used as your first purse string suture, open the gut, insert a rather firm rubber tube, or rubber catheter size 24 French, two and a half to three inches downward, fix with chromic catgut, invaginate with the first purse string and repeat with another of the same material, clamp the outer end of the tube and drop the intestine back to its accustomed place. Close the abdomen in the usual manner and connect the temporarily clamped tube to a bottle. Institute lavage and rectal instillations of alkalies and glucose. In the majority of cases liquid nourishment may be immediately administered by mouth. In case food is not tolerated by mouth it may be administered through the jejunal opening. In either event food introduction will be one of the best agents to restore normal duodeno-jejunal secretory balance.

Summary.

Adynamic ileus is frequently not anticipated or recognized. It is distinguished from the mechanical type by primary fever and the absence of visible or audible peristalsis.

Many affections apparently not related to the intestinal tract are forerunners of ileus.

A thorough examination of a patient when presenting himself to the physician, with the anticipation of complications and the application of knowledge easily attained will reduce its occurrence. Physicians are employed to render real service, and they are derelict in their duty to the patient and to the profession if they fail to do so.

Procrastination in definite surgical conditions spells ruin for all concerned and should not be tolerated.

Medical measures may be useful if a correct diagnosis of the cause together with timely and proper application is made.

Surgical trauma is a dangerous agent and must be eliminated.

When surgical procedures are necessary to relieve the condition, a high jejunostomy with local anaesthesia is the procedure preferred. It is logical. It meets all the requirements with a minimum degree of shock. It can be done in a few minutes under handicapped conditions if necessary. It stops the vomiting and quiets reverse peristalsis above the jejunostomy. It relieves the patient of toxic accumulations, draining an area where such material is not tolerated. It reduces intra-abdominal tension. It opens the intestine at a point above the constriction and away from the area of poisonous edematous tissue in cases of strangulation or mechanical obstructions. It affords a means of nourishment, and it leaves no fecal fistula as an aftermath.

In closing I wish to give Dr. A. I. McKinnon of our city credit for popularizing and demonstrating the value of a high jejunostomy in the condition mentioned above as well as in many other similar affections.

Discussion.

A. I. MacKinnon, Lincoln—I asked Dr. Stokes to wait for this paper in order that we could give him a little light on the treatment of peritonitis and ileus. The only thing I have to say is, in the case of peritonitis Dr. Stokes referred to? If he had opened the jejunum under a local anaesthetic and the patient was still able to vomit, the moment the tube began to drain and empty the upper abdomen so that the girl could take a deep inspiration, she would begin to get well from that moment. I have done it myself so many times that theoretical opposition doesn't impress me. I have opened the peritoneal cavity below left costal margin when free pus would flow out, and I think Dr. Stokes would concede that there was diffuse purulent peritonitis —the type he said invariably dies and put a tube in the upper jejunum. The moment the tube begins to drain, the patient begins to get well. The treatment is rational, if we think a moment. In those cases of obstruction of the bowels, the first symptom is vomiting, and continued vomiting—and finally fecal vomiting—the contents of the large intestine being brought through the stomach. If you short-circuit it instead of letting the contents of the intestines come up through the stomach, slip your little tube in the jejunum and let it drain, you will cure the patient, providing it is not 11:55. There is a stage when there is nothing will bring them back.

Dr. Dowd of New York expressed it well when he said "there is nothing so dramatic in surgery as the recovery that follows a fortunate enterostomy," but he doesn't tell us how to do it. I come along and tell you how.

H. B. Boyden, M. D., Grand Island—I recently had an ileus following a case of appendicitis. The man was very toxic—one of the cases we knew was going to die. He had to be strapped down when brought into the hospital. There was lots of pus and lots of adhesions. We did not make much of an attempt to separate the adhesions because the case was too desperate, and simply drained the culdesac and caecal region. His course was not altered. He continued delirious—undoubtedly a case of sepsis due to a perforated appendix, and peritonitis. In about eighteen hours I did a jejunostomy after the method of Dr. MacKinnon. That altered his course not at all; no establishment of peristalsis. The man died forty-eight hours later. Take a profound case of sepsis in the peritoneum and they are going to die from sepsis.

Dr. C. C. Johnson—I want to thank Dr. MacKinnon for coming to my rescue. He was the father of it. He should. I want to say this: I was a "doubting Thomas" on this jejunostomy until I saw it in action. When you see a man getting away, and with a hypodermic syringe, a lamp, and a little local anaesthetic, you stick a tube in the jejunum and see him begin to come up out of the depths, unless you are very obtuse, you will have to admit it has some value. The more you see of it, the more value you see in it.

I know from personal observation and from my association with Dr. MacKinnon it is a life-saver. I was just trying to get the medical men who have these cases to try it. I intentionally mentioned a few things in the technique I believe are advisable. Don't sew your jejunum to the abdominal wall or you will get a fistula. Drop the intestine back into the abdominal cavity.

Locate the jejunum any way you want to. Some might do it one way and some another. It depends entirely upon conditions. That is purely surgical technique.

I believe one of the best things for the medical man is judgment of values. If he has that, he will succeed where others fail. With the mass of material handed out to us year after year to tackle and use, one is inclined sometimes to become cynical and not accept any of it. It requires good judgment to know what to take and what to leave alone.

Management of Cystic Duct in Gall Bladder Disease With Report of a Case of Perforation.*

From The Department of Surgery, University of Nebraska, College of Medicine.

By A. C. Stokes, Professor of Clinical and Experimental Surgery, Omaha.

It is generally recognized in surgical circles that removal of the gall bladder gives better end results than does simple drainage of the same.

We have not as yet, however, reached perfection in gall bladder surgery and until we are able to remove the gall bladder and close the abdomen without drainage, or with very little drainage (such as a small tube or cigarette drain passing only through the peritoneum and not down among the abdominal viscera) will we attain that end.

We do not any longer introduce large strips of gauze into the wound, nor pack that portion of the liver from which the gall bladder has been removed, but use only the tube or cigarette drain as a safety valve for the purpose of allowing the bile to escape from the cystic duct in case our suture does not hold.

Even this small amount of drainage has two effects.

1. It prevents the healing of the closed portion of the cystic duct.
2. It leaves behind potential or actual adhesions and a fistula in its wake.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

We all admit that the ideal gall bladder removal would be the complete closure of the cut cystic duct and abdomen without drainage.

In 1918 W. J. Mayo told me he closed the abdomen without drainage in about 10 percent of cases. In 1919 Richter of Chicago presented a paper before the Western Surgical Association in which he claimed closure in all cases.

With these facts in mind I began the study of peritonitis due to free bile in the peritoneal cavity.

Compared with the number of cases of infection of the biliary tract, perforation of the same with discharge of bile into the free peritoneal cavity is rather rare, and consequently the study of the symptoms and pathology incident to rupture or perforation and its subsequent results are not too clearly laid down in medical literature.

Hartig (Beitrage zur Perforation and Ulcose Gallenblaze-V. Burns Beitrage Bd. 68 Heft.), mentions four causes for perforation of the biliary tract with discharge of bile in free abdomen.

1. Perforation of a gall bladder ulcer.
2. A sudden acute empyema.
3. Perforation following gangrene.
4. Pressure necrosis.

He thinks it is not so seldom as one believes.

We are all more or less familiar with the various phenomena which take place in the gall bladder when it becomes adherent to the duodenum or transverse colon or stomach and perforates into one or two other of these organs, or becomes adherent to abdominal wall and burrows through, etc.

A case illustrating the issue appeared in my service in the University Hospital.

Mr. H., Springfield, Neb. Laborer, age 41. Admitted to medical services August 16, 1919.

Present complaint: Has had more or less indigestion for past twenty years with intermittent attacks of biliousness. Has had pain in region of left scapula and upper right quadrant. Pain across the kidney region, resembling lumbago, dates from the same time. Has been jaundiced for the past six weeks following an operation for hernia. Since that time has had feeling of distention on eating, eructations of gas and acid with burning sensation in throat. Vomits after eating which relieves the pain in the stomach.

Has been troubled with shortness of breath for about seven years since hernia became so bad, but since his operation six weeks ago his breathing improved. Along with shortness of breath, he had palpitation of heart; when he was conscious of heart beat, it seemed to be regular. Heart beat harder part of the time, sometimes seemed to turn over.

Previous history: Measles, whooping cough, chicken-pox, diphtheria in childhood, smallpox, influenza in November (was in hospital about seven weeks). Operation for hernia six weeks ago.

Gonorrhea 11 years ago.

Family history: Father dead, cause unknown; mother dead, cause unknown, probably cancer of stomach; two half sisters living and well; two half brothers living and well; mother's sister was supposed to be insane, isn't sure.

Habits: Had a great deal of trouble and worry; has always worked hard for long hours; drank but small amount of liquor; smokes a cigar occasionally; travel has been limited, always lived in Nebraska.

Symptoms: Does not have headache. Has dizzy spells with spots before eyes. Has cold now and then with difficulty in hearing and ringing in the ear. Has never been troubled with sore throat. Respiratory: no cough, no shortness of breath. Gastro-intestinal: indigestion, feeling of distention, vomiting, eructations of gas and acid. No constitpation, stools are clay colored; strong cardiac, shortness of breath, pain over heart, palpitation.

Genito-urinary: pain in bladder region on urination; stoppage of stream. Nocturia: 3 or 4 times a night. No passing of blood. Dark colored, heavy urine.

Musculo-joint-attack of rheumatism in right ankle twenty years ago, following exposure to rain and cold. Attack of rheumatism six weeks ago. Muscles of both hips. Present condition, joints negative.

Mental: Some ideas of persecution. Ringing in the ears.

General appearance: Man of about 175 pounds, well nourished, extremely jaundiced and having the appearance of being sick. Much malaise and weakness.

Head and neck: Scalp negative. Eyes, sclera very yellow. React well to L. & A.

Ears: Left ear hears watch tick at 10 inches. Right ear hears watch at 12 inches.

Tongue: No tremor.

Tonsils: Present small enlargement. Inflamed anterior pillars.

Teeth: Fair condition.

Glands: Not palpable.

Skin: Yellow.

Chest: Normal in appearance.

Lungs: Resp. 27. Few large moist rales over left upper chest, otherwise negative.

Heart: Apex beat not visible, no enlargement. Tricuspid, negative. Mitral soft systolic murmur referred to axilla. Aortic, negative. Pulmonary, negative. Pulse 84, good condition.

Abdomen: Skin yellow. Marked rigidity of both recti muscles. Severe tenderness over G. B. region. More or less tenderness over whole abdomen, more marked above umbilicus.

Extremities: Arms, range and power and motion good. Reflexes present, no enlarged glands. Legs, flexed on abdomen to relieve pain. Power and motion good. Knee kerks present. No anesthesia of tendo achilles. Babinski not present. No roughing of ant. tibia.

Diagnosis: Gall bladder inflammation with obstruction of common duct.

Admitted to medical service August 16, 1919. Transferred to surgical service 17th, 11 a. m.

9:30—Expectorates large amount of watery sputum. Complains of soreness in right leg. Eye balls and entire body jaundiced.

11:00—Severe cramps in abdomen, nauseated, unable to vomit. Specimen of urine to laboratory.

11:20—Cramps last ten minutes, cramps in abdomen. Unable to stay in bed, cold perspiration all over body. Cramping pain extended to testicle.

12:00—Severe cramp, 15 minutes. Refused diet.

2:00—Cramps in abdomen lasting about 5 minutes. Seems quieter and has less pain.

4:00—Pain doesn't seem so sharp, more of a throbbing pain.

5:00—Hot water bottle refilled and placed to abdomen.

Operated upon at 7:30 a. m.

Following this history the patient complained of mild cramps during the night, but nothing compared to what they had been. They were relieved by hot water bottles.

At 8:00 on the morning of the 17th, the temperature was 98.2; pulse 98 and respiration 12. At 4:00 on the same afternoon the temperature was 98.4; pulse 88 and respiration 24. At 8:00 that evening the temperature was 100, pulse 104 and respiration 28. At 4:00 that morning the temperature was 98.8, pulse 100 and respiration 20. At 7:50 he was taken to the operating room, the abdomen opened and it was discovered that the omentum was mildly adherent to the edge of the liver. These adhesions were broken down very easily and upon doing so it was discovered that the free abdominal cavity was filled with bile, a plastic fibrinous exudate was found over the stomach, duodenum and transverse colon and omentum. A search was made for the perforation.

The biliary tract was examined throughout its entire extent. A rather indefinite mass was found at the junction of the common duct with the duodenum. We could not discover a perforation at this point, but suspected this was the point of perforation. The gall bladder was opened and a tube introduced. No stone or stones were discovered in the gall bladder or in the common duct. The gall bladder was emptied of bile. After a rather stormy convalescence and considerable bleeding from the abdominal wound, the patient recovered, the jaundice cleared and the patient is today perfectly well.

At the time of the deep jaundice, the Wassermann test was 3 plus. We were never able afterwards to get a positive Wassermann reaction and although no antiluetic treatment was given, the Wassermann test was normal and stayed so. We are of the opinion that the first Wassermann test was a reaction, due to the presence of so much bile in blood as sometimes occurs. This case presents the following points of interest:

1. The abdomen was filled with free bile.

2. No stones were found either in the gall bladder or in the common duct drainage.

3. The patient recovered by simple drainage of abdomen and gall bladder.

Courvoisier in 1890 collected 119 cases of perforation.

(Kasuistischel statistiche Beitrage zur Pathologie & Chirurgie der Gallenweg lecture 1890). Of this number only one was operated upon. In 1910 Hartig (see above) collected 27 cases all of which had been operated upon. Of this number eleven died or 40 percent. These cases were reported from 22 different clinics extending over 30 years. Notzel (Langenbeck's Arch. Klinische Chr. Bd. 93 S. 161), reports 11 cases of gall bladder perforation peritonitis with six deaths. Herschel reports from the Heidelberg Clinic 110 cases of death from peritonitis; seven cases were due to gall bladder perforation, none of which had been operated upon. Jenckel found from the Gottenger Klinik from 210 operations for gall bladder disease with three perforations all died promptly.

McWilliams paper in the Annals of Surgery for 1912 Vol. 55, p. 235, collected practically all cases of perforation of gall bladder which had been operated upon to that time. He found 108 cases. We have discovered the following cases:

Case 1. Dr. Howard L. Beye (J. A. M. A., 1915, Vol. 65, page 2084), reports the case of a school boy L. E., age 11, who two months previous to his entrance to the University of Iowa hospital, sustained an injury of the gall bladder which confined him to his bed for some days. Upon entrance to the hospital, the diagnosis of general peritonitis, due to perforated appendix was made by the surgeon. Upon opening the abdomen, it was found to be filled with bile. An incision was extended up to the gall bladder and a fine perforation found in the top of the gall bladder from which bile was flowing. The interesting part of this case is, did the bladder rupture at the time of the accident or afterwards,

Case 2. The second case of interest along this line is reported by Dr. W. W. Grant of Denver, (Surg. Gyn. & Obst. 1916, Vol. 23, page 422-4). This case was Mrs. M., age 72, consulted Dr. Grant Jan. 4, on account of severe pain in the upper right abdomen. Dr. Grant made the diagnosis of perforation or perforated gall bladder. The woman refused operation. On January 11, Dr. Grant was called to see his patient in the night. He found her with symptoms of general peritonitis. She died Jan. 14. Dr. Grant obtained a post-mortem and found a perforation of the gall bladder near the hepatic duct. There are still other cases reported in the literature to which I have reference, but as yet have not been able to obtain the references since they are mostly in German. There are, however, not over ten cases of perforation into the free abdomen recorded in the literature since 1912.

These three cases recited here and other cases recited by McWilliams all point to the fact that the beginning of peritonitis following gall bladder perforation is much later than that of the perforation of the gastric ulcer, or even duodenal ulcer, especially if the duodenal perforation is on the anterior free surface.

In this connection the experiments of Noetzel (Verhandlungen der Deutschen Gesell. fur Chir. 1909, p. 701), are of special interest. See Annals of Surgery, p. 241, vol. 55. Quoted by McWilliams.

In rabbits he has demonstrated that after an aseptic laparotomy the gall bladder can be incised and left to drain into the free abdomen, after which the abdominal wound is tightly closed. The animals regularly survived this procedure. In a second set of experiments, he demonstrated that, after opening the peritoneum, the animals recovered after infections were introduced into the cavity, of certain amounts of staphylococcus aureus, in other animals of bacillus coli communis, in others of typhoid bacilli, in others of streptococci. He also demonstrated that if even smaller amounts of these organisms were injected into the abdomens of animals and at the same time, their gall bladders were incised and left open in the abdomens and the abdominal wounds were then closed, the animals regularly died of septic peritonitis. These experiments show the deleterious effect of bile in contact with peritoneum in exalting the virulence of the oragnism. In addition bile diminishes phagocytosis, and by this double mechanism it decreases the means of natural defense of the peritoneum toward infection. Conradi has shown that bile for typhoid bacilli is a good culture medium. He has also shown that the addition of bile to a normal blood serum promptly does away with the bactericidal properties of such serum, for, if we take 0.3 cc. normal guinea-pig serum in a dilution of 1 to 80, we will find this amount will kill 20,000 typhoid bacilli in two hours. If we now add 1.1 cc. of bile to the same amount of normal guinea-pig serum, a bactericidal effect of the serum cannot be demonstrated, but on the contrary the added typhoid bacilli will grow without any hindrance.

It is readily seen from the above experiments that the clinical course of a perforation depends upon the infection in the gall bladder at the time of perforation.

With a previously classical history of gall bladder disease and the following added symptoms one may diagnose perforation. When the character of the pain suddenly changes from dull to cutting character with considerable shock, followed by a period of quiet, one may well suspect perforation.

The perforation occurs most frequently somewhere in the gall bladder above the cystic duct, next in the common duct, more rarely in the cystic duct and rarest of all in the hepatic duct. The figures in ninety cases of perforation are as follows, quoted by McWilliams. Gall bladder 91%; common duct 33%; cystic duct 4.4%; hepatic duct 1.1%. Those cases in which the ducts were involved did not present the same degree of acuteness as those in which the gall bladder itself was affected.

The classical symptoms of a perforated hollow viscus are so generally present that the history of gall bladder disease either with or without jaundice extending over a number of years and the symptoms of a perforation of an abdominal viscus would lead one to think of a perforation in the biliary tract.

The differential diagnosis is from appendicitis, perforated gastric ulcer, perforated duodenal ulcer and acute intestinal obstruction.

The differentiation from gastric ulcer is usually comparatively easy taking into account the previous history of stomach trouble characteristic of gastric ulcer, and the character of the first symptoms of a perforation of a gastric ulcer, namely, a sudden acute cutting pain in the abdomen and the cessation of this pain to a certain degree after the sudden onset. The perforation of a gastric ulcer usually takes place in a standing position, while that of a gall bladder perforation more frequently takes place during some exercise in bending, such as stooping down to pick up a heavy weight, bending over a chair, etc., are instances of gall bladder perforation. The differentiation must depend on the previous history of the case, in one instance the history of duodenal ulcer and in the other instance, the past history of gall bladder disease.

One can see from the number of times in which cases have been operated upon with a previous diagnosis of appendicitis, and upon operation to find a perforated gall bladder, that the diagnosis is extremely difficult. Nevertheless the antecedent history together with the character of the pain should be of great assistance. The pain and rigidity of appendicitis is confined more to the right lower quadrant of the abdomen, while that of perforation in the upper abdomen extends over the entire abdomen, or at least to the right half of the abdomen.

It must also be remembered that perforation in the upper right quadrant of the abdomen discharges its contents over the omentum or outside of the ascending colon in such a manner that the fluid in the peritoneal cavity runs down to the right iliac fossa and the pain of peritonitis is first manifested in the appendix region. This often produces beginning symptoms similar to appendicitis.

The pain of perforation is not at all similar to the referred pain due to inflammatory process of pain in the abdomen anywhere. The pain referred to stomach is the pain of reverse peristalsis while the pain of a perforation is that of acute cramping pain, like the cutting of a knife accompanied by shock and collapse, the general symptoms of vomiting, increased pulse, increased respiration and slowly increased temperature are present.

The increase of the pulse and the rigidity of the abdomen are the first signs of a perforation. In our case the signs of perforation were rather more definite than is usually found in the gall bladder, because it perforated indirectly into the abdomen. The omentum or duodenum or transverse colon frequently forms a barrier that does not allow the free escape of bile in the peritoneal cavity. The signs of pending perforation in this case began at 11:00 a. m. and were completed by 4 p. m., at which time the record showed that the patient was quieter and had less pain. This, of course, was the quiet time preceding the general peritonitis. In our case also we had a definite history of disease of the biliary tract as well as a history extending over several years of pain referred to the gall bladder. The interesting part of this case is the fact that the man has made a good recovery although we have done nothing to the biliary tract itself, and drainage by two tubes was sufficient to save the patient from peritonitis and death.

1. From the foregoing one may say that the presence of bile in the peritoneal cavity, if it is sterile will not produce peritonitis.

2. The presence of bile in the peritoneal cavity with infection aids the development of peritonitis.

3. The usual infection of the gall bladder does not produce a very virulent and rapid peritonitis, but aided by the necrosing effect of the bile it becomes very effective in producing a fatal peritonitis. What then shall we do about the closure of the biliary tract without drainage because in most cases the bile left even in the hepatic duct is mildly infectious. Some will question this statement.

My procedure at present is the following, viz.:

Remove gall bladder from above down. Free the cystic duct. Crush the duct at the point of removal. Invaginate the proximal end and suture it over with peritoneum.

This process is sometimes rather difficult, but can be approximated in most instances.

Discussion.

B. B. Davis, M. D., Omaha.—Dr. Stokes has opened up probably the most important question in connection with the treatment of the gall bladder at the present time. All of us doing a good deal of gall bladder surgery are impressed with the fact we are not getting as good final results—patients cured—in as large a proportion as should be.

I will not devote any time to the cause of perforation, because the important thing is how we should treat the stump of the cystic duct, and how conduct ourselves with reference to closing the abdomen. I have had case after case which we have relieved of all the symptoms for some considerable time—several weeks. Perhaps the patient would be apparently entirely well. Perhaps we would get a telephone call from a doctor out of the city, and he would say this patient was having a regular attack of the same trouble. I think we are all of us face to face with this important problem and if we are going to continue to do gall bladder surgery and get results, we should study the problem.

I believe a great part of our trouble in these cases —once in a while there may some stones form, or we may have overlooked something—but I mean in cases where we have done what we would consider a good job, and where we have left conditions for the time satisfactory, and later we begin to have trouble. I believe the greater part of that trouble is due to adhesions. I think a good portion of those adhesions are the ones that form around the cystic duct and produce more or less of a kink in the common duct, or in some portion so that it interferes with the drainage from the liver.

I told Dr. Richter when I was in Kansas City, the first time I was in Chicago I was going to go around and see him do some of that work. He is very enthusiastic in regard to it, and I have a great deal of respect for it.

I have not the courage to close the abdomen in these cases. If we knew that this was a perfectly aseptic biliary tract I would not care very much, since the sterile bile is not going to do any great amount of damage. But we nearly always are operating on an infected biliary tract, which may be infected with some micro-organism. I feel in many of these cases we need some drainage. In some cases I drain that cystic duct, or make a hole in the common duct to get some temporary drainage. In the cases which we are not compelled to drain, I try to close up the cystic duct so it will not open again. It is surprising how many cases where you think you have closed it fairly well, in a few days bile will begin to flow. You congratulate yourselves you saved the patient's life by having adequate drainage.

I confess I believe the whole question of our results hinges on our ability to find some means so that we can close the abdomen without drainage, but I confess I want to see some other fellows do it first. I am afraid.

I read a paper fifteen years ago before the American Medical association in which I advocated removal of the gall bladder in a proportion of the cases. Dr. John B. Murphy ironically complimented me on my "courage." He was followed by others along the same line. But for two who took the same view as myself, I would have been absolutely alone in my claims.

The thing we are all looking for is the point Dr. Stokes brought out—some way whereby we can cut out the formation of those adhesions which interfere with the future health of those patients. It is one of the things that is uppermost in my mind.

Dr. Stokes and I agree in the main, but I would reverse his statement in regard to taking out the gall bladder. He said he would take it out from above if he could. I take it from below if I can; if not, I take it from above. I will tell you my reasons: I believe I can deal with the cystic duct just as well when I take the gall bladder from below as above. I like to do it, because when you have cut off the cystic duct, you have a clamp on the lower portion of that gall bladder. I draw that up and pull it out, and cause infinitely less damage to the liver than when it is taken out from above.

I am making my drainage smaller and smaller. I used to use—well, I won't say, but some of you know—a big packing, tube, and all sorts of things. That was years ago. Then we used a tube with a piece of gauze. I suppose after a while it will be so infinitesimal it won't amount to anything.

Charles O'Neill Rich, M. D., Omaha.—Normal bile is practically always sterile. In the patient presenting symptoms of gall bladder disease, there is a bile that in the majority of cases is infectious and a diseased gall bladder wall.

The ideal to be hoped for is closure of the cystic duct, as Dr. Stokes has outlined, on the principles of surgical technique, that is, covering over the end of the ligated cystic duct by the approximation of the serous surfaces. Those of us who have done very much gall bladder surgery know it is not always easily realized. Sometimes it is very difficult to carry out the technique in such a way as to completely peritonealize the stump of the cystic duct. A great many operators in ligating will simply crush and ligate the stump with catgut so that the mucous surfaces are in opposition rather than the serous surfaces.

With reference to the drain, I feel a little timid about closing up these abdomens tight, even when we realize the ideal closure of the cystic duct. It is my custom to use rubber dam folded two or three times and placed at some little distance removed from the cystic duct.

The continuance of the symptoms following the operation must be due to adhesions. In a majority of these cases, the cystic duct is not covered over ideally at the operation, and there are bound to be some adhesions with the stomach or other viscus. I think that will account for the fact the peritonitis is slow in developing, because the adhesions have formed, and the infection is limited to that section of the abdominal cavity. In cases in which I have thought I had an ideal closure, in 48 to 72 hours we have found the patient bathed in bile. In other cases convalescence has continued uninterrupted. If the drainage is well placed, a granulation tract is formed, but not a true fistula, as the drainage may be removed within 48 to 72 hours, and it closes promptly.

A. I. McKinnon, M. D., Lincoln.—Since the discussion has gotten away from the title of the paper, I shall not consider it necessary to confine myself strictly to the text. The question of whether to do a cholecystectomy or a cholcystostomy is still unsettled. I do not think that the reason Dr. Davis gave up draining gall bladders and began removing them was entirely due to the fact tht adhesions following drainage caused discomfort. I would venture a guess that the results Dr. Davis was getting from draining averaged as high as his present results, because he is too good a surgeon to continue doing any particular operation if results were not satisfactory. There are styles in surgery as in millinery. I removed my first gall bladder in 1901 and continued such operations for a number of years or until I thought I was a better surgeon and knew how to drain a gall bladder so that it would not continue to drain forever. At the present time I frequently drain a gall bladder, using a local anaesthetic; this being in the minor surgery class. I am willing to concede that cholecystectomy in the hands of a master surgeon is a legitimate operation, but in the hands of the average operator I would strongly advise the drainage operation. I have arrived at this conclusion from reoperating cases where the gall bladder had been rmoved in a previous operation. In a case which fell into my hands where the gall bladder had been removed at a famous surgical clinic, there was an acute obstruction of the common duct by a stone.

If a stone in the common duct can be overlooked by a surgeon of world renown, what may we expect from the ordinary doctor whose surgical experience is usually limited to patients of his own practice. I have had one case where the common duct was cut instead of the cystic duct in removing the gall bladder. In this case I was able to sew the common duct end to end and obtain a perfect result. I have seen several persistent fistulas of the common duct following cholecystectomy, and I should like to impress it upon the profession that drainage is a far safer operation in the average surgeon's hands.

In regard to perforations of the gall bladder: I recall a patient who came to me with the history of having had a perforated gall bladder some five years previously. She had an opening made into the abdomen at the time and bile and gall stones presented. Her condition was desperate so the surgeon put in drainage and let it go at that. She got well. In the course of the next few years, about once in six months, a little abscess would appear on the abdomen through which a gall stone would pass; then she would go along for another six months or so and there would be another. She finally grew tired of this periodical extrusion of stones through the abdominal walls and sought relief. Upon opening the abdomen I found a mass of adhesions with a shriveled up gall bladder and a few gall stones under the liver. The gall bladder was removed, also about four feet of the small intestine which was so badly matted by adhesions that any attempt to restore it to normal condition would be utterly impossible. Patient got well.

In regard to the technic of cholecystectomy: I have never found it necessary to cover the stump of the cystic duct and have rarely seen bile drain following. There is only one possible reason why there should be drainage through the cystic duct and that is some obstruction to the outflow of bile from the common duct. The fact that the cystic duct is spiral shows that there is no positive pressure forcing bile into the gall bladder. Why does the appendix remain closed when a string is tied around it? Why does the fallopian tube tend to reunite following occlusion by ligature. The tube is necessary in the propagation of the species; the appendix, if it ever had a function, has lost it in man; the gall bladder is probably in the same category as the appendix. The doctor has not gotten away from the old fashioned idea of peritonitis as a clinical entity. You might as well call these cases septic nephritis or myocarditis. The fact of the matter is that in most abdominal cases of socalled peritonitis we have an obstruction of the bowels, and if the inside of the intestines is drained the outside seems to take care of itself and no attention need be paid to the peritoneal cavity. Ochsner advised a good many years ago emptying the stomach and colon mechanically and obtained fair results. I was advocating emptying the intestines physiologically and found in cases where the intestines could be kept open the patient would not die from socalled peritonitis. In recent years, I have discovered that the small intestines can readily be drained by a tube in the upper end of the jejunum. In these cases I pay no attention whatever to the peritoneal cavity.

Dr. Stokes: My proposition was to demonstrate how the closure of the cystic duct could be done and should be done, that is, by the method which I have outlined.

I agree with Dr. Davis absolutely that pain and other unfavorable results, in a large percentage of cases, are due to adhesions. That is what I have been trying to avoid, and that is why we have gotten away from the packs and gotten back to the smallest tubes possible. That is why I put the drainage tube only through the peritoneum in most cases. I realize "Faint heart never won fair lady." Still I must admit that I have a little faint heart in the matter of closure of the abdomen because we have not accumulated enough evidence to formulate absolute rules in the matter. Evidence is slowly accumulating, and I can see the end, I think—that it won't be long until we will close the duct and close the abdomen without drainage.

I do not agree with Dr. Davis on the removal of the gall bladder. I can remove it from above down very much more easily than from below up in all ordinary cases. By a little incision around the top of the gall bladder through the peritoneum it slips right out. I do not get into the liver at all. You do not have to cut through the capsule of the liver to remove the gall bladder from above down if your dissection is accurate. You must go just through the peritoneum and cut each side of the gall bladder with scissors, and the gall bladder shells out. This method is entirely visible and one is never working in the dark.

Dr. Rich brought out the point I am trying to avoid, viz., that after three days of convalescence with drainage, we suddenly find the patient bathed in bile. That is what happens in almost all these cases when we put in the drainage as we have been putting it in. The very last case I had did not do that at all. I opened and closed the common duct and went into the duodenum, removed the gall bladder, and yet that patient had not one single drop of drainage, and she went home three weeks ago.

Now, Dr. MacKinnon and I almost always do not agree. He is a very fine fellow and I admit all of his faults. I do not agree with the proposition that adhesions are due to infection alone. "What is the cause of adhesions" is a question I ask annually when I come to the proper place, at the Medical School. I have never yet found an answer. I know they are due to other things besides infection. Else we would not get union in ordinary wounds. Adhesion will form always without infection when two traumatized surfaces are brought in contact and held there.

About the opening and closing of the cystic duct and appendix and fallopian tube: I do not know much about the fallopian tube. I know the appendix opens occasionally if you just tie the stump off and do not bury it. That is why we bury it. The cystic duct will not stay closed unless it is closed by the approximation of peritonal surfaces.

About this priority of removing the gall bladder: I wrote a paper once. I won't tell when it was, but before either one of those mentioned.

I cannot let the statement that there is no such clinical entity as peritonitis go without being challenged. I will admit that if Dr. MacKinnon can get the bowels to move, the peritonitis will take care of itself; and also if you can put some salt on the bird's tail, you can catch the bird. Peritonitis is, to my way of thinking one of the most dangerous complications —in medicine. Of course, the peritoneum will do everything it can to help the surgeon, but sometimes he cannot get away from a general peritonitis, because infection gets among the intestines and cannot be reached and drained. I do not like to have it understood by this body of men that peritonitis does not exist and that we can handle infection in the abdomen with impunity. It can't be done. I had a case a few days ago that died of peritonitis. I remembered Dr. MacKinnon's teaching. I took that little girl and thought "I will do the best I can." I put an ounce of castor oil in that child's stomach. She vomited it right up. Peristalsis, unless it is reverse peristalsis, does not exist in the presence of an acute infection in abdomen. That is nature's method of limiting that infection and preventing it from spreading. If it doesn't localize, the patient is gone.

The Doctor.

Of all lives the life of the physician is the most self-denying. He has no time that he can call his own. His home is his office, and furnishes him no sweet retreat from irksome care. The night can never assure him unbroken rest. Sundays are often, whether he will or no, his busiet days. He has no holidays, and few and fragmentary vacations. Friendship furnishes him fewer solaces than to other men, for his friends are generally also his patients. He meets men in their morbid conditions—when they are sick and miserable; when they are well he knows them not. He can hardly make a friendly call without the hazard of having it converted, before the evening is over, into a professional one. He fights a battle in which, no matter how many victories he wins, he is sure to be defeated at last—for he is fighting death. And when the defeat, which must come sooner or later, does come, he is fortunate if unreasonable friends do not charge the defeat upon his lack of science or care. But no man renders a more grateful service; no man comes nearer to our hearts; no man is more beloved. Other services may be as great, but none is more deeply or tenderly appreciated. He summons back from death the child, and puts him in his mother's arm; the wife, and reunites her to her husband. No fee can ever compensate for such a service. He to whom it is rendered is forever debtor to the doctor. —The Outlook.

Palestine's first medical journal, "Harefooah," (Medicine), has just made its appearance, published by the Jewish Medical Association of Palestine. The journal is a quarterly and its first issue is dedicated to the memory of the Jewish physicians and nurses, who "lay down their lives in the years of upheaval in the Holy Land."

The objects of the medical association, as outlined in the quarterly, are to strengthen and coordinate the medical forces of the country and to collaborate with doctors outside Palestine; to give the medical work a national as well as a humane value; to prepare a native soil for Jewish scientists; and to help in the creation of the Hebrew University.

Medical work in Palestine has advanced rapidly during the past two years, stimulated by the American physicians and nurses with the American Zionist Medical Unit, who have taught the native members of the profession all the latest ideas in medical work and sanitation. Clinics are held by the American doctors, to demonstrate to the Palestinion doctors, the most modern methods, and lectures are given at regular intervals.

Physician or Saloonkeeper—Which?—We believe—and challenge contradiction—that there is not a single reputable physician in the city of Chicago today who legitimately prescribes more than one pint, all told, of whiskey per week. The vast bulk of professional men, of course, do not even prescribe that much in a month, and large numbers none at all. Therefore, to give a physician the right now to prescribe three or more pints of whiskey each day is simply a deliberate attempt under the guise of the law to turn physicians into saloonkeepers, and we most decidedly protest. In this we are backed up by every decent member of the profession, and have obtained much evidence to sustain this assertion. They are all agreed that one book of one hundred prescriptions each to every physician per year is far above normal requirements and ample for any emergency of any kind whatsoever. Under no pretext should this amount be exceeded, and the number of prescriptions now allowed is simply a bid to the unscrupulous members of the profession to become bartenders and wring blood money out of the unfortunates, the inebriates, the prostitutes and criminal classes generally. We earnestly request the very efficient Director of Federal Prohibition Chicago, Captain Hubert E. Howard, to defeat this method of fostering drunkenness and limit prescriptions to one hundred per year or less. — Chicago Medical Record.

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Doctor George L. Miller

The recent death of Dr. George L. Miller takes from among us the physician who was first to "hang out a shingle" in Omaha, October 19, 1854.

He had graduated in Medicine from the College of Physicians and Surgeons, Medical Department of Columbia University, in 1852. Doctor Miller did not long continue in active practice, yet up until the time of his failing mental faculties a few years ago, he took an active and intelligent interest in all matters pertaining to the progress of the Medical Profession, and did much with his powerful pen as owner and editor of the Omaha Herald (now the World-Herald) to keep Omaha and Nebraska doctors stirred up and in touch with the progress of the times. It was he who made it possible to raise sufficient funds for the buildings of more than one of our hospitals; as an example, he called the public meeting in the old Boyd Opera House, 15th and Farnam streets, which resulted in the building of the Immanuel Hospital.

No man has lived in Nebraska whose personal acquaintance and influence with the strong men of the Nation is comparable to that of Doctor Miller during his active career. There is no man living, and few if any dead, whose activities did more to attract attention towards Omaha and Nebraska in a way to be rewarded in what we have today, —a modern, progressive city and a Commonwealth in which we citizens all take so just a pride.

—J. E. S.

Public Comfort Stations

Public Comfort Station denotes a structure planned for the convenience of the general public, in which the use of sanitary toilet facilities constitutes the principal service rendered. No provision has been made in Nebraska toward providing such conveniences, except in public parks. No municipality has undertaken to provide toilet facilities for the general public. Hotels usually have signs "For guests only," and depots "For the travelling public only." It is of interest therefore to note that the state of Wisconsin by a law passed in 1919 providing for public comfort stations has solved this problem:

"(1) Every city and incorporated village shall provide and maintain a sufficient number of suitable and adequate public comfort stations for both sexes. (2) The state board of health shall establish rules and regulations governing the location, construction, equipment, and maintenance, of public comfort stations, and may prescribe minimum standards that shall be uniform throughout the state. (3) The governing body of any city or incorporated village may adopt and enforce additional regulations deemed essential for the proper construction and maintenance of such public comfort stations."

It will be noted that the provisions of this enactment are mandatory on all cities and incorporated villages in the state of Wisconsin.

That Nebraska needs such a law is axiomatic.. The medical profession should father a movement to get such a law placed on the statute books of Nebraska at the next session of the legislature.

The Trend of Modern Education

Is the modern method of medical education producing practitioners of medicine who at the bed-side are as good physicians as yearly progress in knowledge should justify? In general, no. And it is because of this weakness that proper individual judgment in the student and young doctor, fails to be engrafted. In his presidential address delivered before the Minnesota State Medical Association, October 1919, Doctor George Douglas Head struck the keynote in "reconstruction in Medical Education." Among other bold, true facts, he said: "I wish to join forces with those men who believe that serious defects exist in our methods of medical instruction. My twenty years' experience as a medical teacher, my close association with the graduates in medicine of recent and former years, and my observations in military service, have led me to that conclusion." And again he said, "the chief end of medical instruction is not the training of a young man's brain as a store-house of facts. He must be taught how to use his brain; to acquire knowledge by the use of his own faculties.—The student possesses knowledge but he lacks virility and power of growth. The courses cover too wide a field. Much information, valuable to know, is dragged in, but it is non-essential and a refinement. There is some danger of teaching too much."

Doctor Head possibly exaggerates conditions in his statement, but it does not seem possible for the average student in the years allotted, to acquire a firm foundation in what is supposably taught. Each teacher, in the guise of a specialist, attempts to teach too much; he does not limit himself sufficiently and emphasize properly the fundamentals, the common, the every-day-to-be-met-with; hence the natural weakness in the product of the system,—the doctor.

The medical student and young physician of today, and the medical teacher for some years past, is more inclined to be interested in the Will-o'-the-Wisp of many unimportant, illusory methods of diagnosis and treatment, both from the laboratory point-of-view and the history sheet, than he is in a proper comprehension of facts. He is looking for the unusual, when the every-day is before his eyes, but he cannot see it. Like Newton and his dog Diamond,—the same figures were pictured on the retina of each but the brain of the dog did not comprehend their value as did Newton. In a few institutions, the Mayo Foundation, for example, and in our own University Medical Department, weekly meetings of all of the teaching staffs are held. At these conferences cases are presented by the different teachers, and discussed; the discussions taking in the wide range of general medicine, and the specialties, including those of the laboratory and the X-Ray. Matters educational and of general importance to students and the Staff, receive special attention. It is a kind of general post-graduate course, a school for the teachers, valuable to all, as it tends to correlate the specialties; this makes for a better appreciation of the other fellow's work. There is a too-great tendency to specialism before knowledge has been gained, based upon the firm foundation of clinical experience in general medicine. Last fall, in a review written for the Military Surgeon, was noted a saying of the late Sir William Osler regarding over-specialization in medicine; he said, "The extraordinary development of modern science may be her undoing. Specialism, now a necessity, has fragmented the specialties themselves. The worker loses all sense of proportion in a maze of minutiae. Applying themselves early to research, young men get into backwaters, far from the main stream. They quickly become hypercritical, and the smaller the field the greater the tendency to megalocephaly."

The history, the X-Ray findings, the laboratory findings, each or all together may be indispensable in arriving at a proper diagnosis in a given case. Usually the history is as important as both the others together—or the X-Ray findings, or the laboratory findings, may either be the positive factor in clinching a diagnosis, but the talent of being a good observer, and of being able to give proper appreciation to that which is observed is the choice quality in the clinician, and teachers should in every way possible encourage the development of this essential quality.

Among many of the big men in business will be found the best of analytical minds, and doctors should study the careers of these men,—those quick to grasp the essential, quick to act, — minds with intuition and knowledge combined. One of the best educated and greatest of these men was recently asked, "What quality (in the employee), is the hardest to obtain and therefore worth the most money?" "Plain common-sense" was the reply. "Common-sense or horse sense, means that a man has good judgment, and success in business is nothing more or less than the exercise of superior judgment. Sound judgment, in turn, is usually the fruit of persistent study of one's business, from the ground up, and from every angle. Any judgment based on ignorance is almost certain to be wrong. Sound judgment comes from sound knowledge. Therefore the man who possesses common-sense possesses uncommon knowledge nine times out of ten."

Where can one find a truer or more to-the-point expression of what relationship, in comparison, exists between knowledge and judgment?

It is as Rochefoucauld wrote in his Maxims, more than three hundred years ago, "We are mistaken in supposing that intellect and judgment are two different things. Judgment is merely the greatness of the light of the mind; this light penetrates into the resources of things; it observes there everything remarkable, and perceives what appears to be imperceptible. Thus it must be allowed that it is the greatness of the light of the mind which produces all the effects attributed to judgment."

A quotation from the Hindu is apropos: "Only the association of medicine with surgery forms the perfect physician. The physician who is deficient in the knowledge of one of these branches resembles a bird with but one wing." Art of Life (Ayer Veda): Early Sanscrit, first century of Christian era.

—J. E. S.

The Wassermann Test

Is there not too much importance given to the reports of the Wassermann reaction in the diagnosis and as a standard of treatment of syphilis? The principles used in the Wassermann test have been a great aid to our understanding of the disease. Too often the positive or the negative report is taken as final and the patient is treated or is permitted to go untreated or is discharged as cured without carefully correlating the findings of the tests with the findings of a careful general physical examination. It is only by doing this that the disease can be better known and the patient get the best treatment.

The test gives us very little or no information in the early chancre stages of the disease when there is no systemic reaction. Also in the late cases where the organism has seemed to run the course and as a standard of cure the reaction is negative so soon, long before the disease can be considered cured. It is here better to use the money that is spent on oft repeated Wassermann tests in medical treatment.

The methods that should be used in the diagnosis of syphilis are those that will show the treponema pallida and these must be used in the early stage of the disease.

Most patients are not seen until the late stages of the disease. It is usually the patient's friend and often the druggist, who gives the first advice on the treatment. This is usually calomel powder and this treatment obscures the diagnosis and the opportunity for doing the most for the patient soon passes by.

—A. A. J.

The Nebraska State Board of Medical Examiners will hold its next regular examination at the State House, November 10th, 11th, and 12th. The Board will meet on the evening of the 11th to consider reciprocity applications. For information and application address, H. H. Antles, Secretary, Department of Public Welfare, Lincoln, Nebraska.

Abortionists

A New York physician was arrested, tried, convicted and sentenced to prison on the charge of manslaughter. For some reason, a group of physicians, probably friends, engaged a publicity man and began a campaign against the jury system on the ground that laymen were not capable of judging indications for surgical procedures. It was even alleged in the public press, that owing to the conviction of this doctor, surgeons were refusing to perform needed operations, because of a fear of falling into the nets of the law.

This circumstance is of serious moment. The jury viewing the facts held the physician guilty of the death of a woman, upon whom he had performed an operation. The punishment was due to the unlawfulness of the operation which caused the death. It required no technical knowledge concerning the indications for emptying the uterus in passing upon the actual facts. Medical testimony as to the facts was presented. It is well known that when the problem of abortion arises and a therapeutic abortion is indicated, the judgment of the operator should be supported by the opinion of at least one other competent medical man. Under normal conditions this rule is reasonably observed by those who are mindful of their responsibilities before the law. It is unbelievable that any physician with self-respect and confidence in his own judgment would hesitate to perform any operation merely because some other physician was held guilty of performing an illegal operation.

The frequency with which abortions are performed is a matter of common knowledge to laymen who condone the operation when it is successful, but have little pity in their hearts when in performance of their duty as jurors they are called upon to weigh the facts in the light of existent laws. The medical profession is not unaware of the existence of abortionists, and in their official proceedings do not hesitate to condemn such activities as pernicious and contrary to public health. A medical society promptly repudiated all implied medical support of the physician who was not a member of the county society.—American Medicine.

Did You Ever See a Leper?

Did you ever see a leper of the Orient sitting at the wayside begging for a morsel of food to appease his hunger, holding up his maimed and distorted hands imploring a gift, or wearily hobbling along the way with a staff, his feet bandaged in filthy rags to keep the dust of the street from his festering and loathsome sores?

Such a sight is far too common. But no such impression of leper conditions would have greeted you had you been present at the Communion Service at the Leper Church in the Asylum in Chiengmai, Siam.

CHIENGMAI LEPER ASYLUM, SIAM

Bethany Cottage, completed in 1919. Built by the Women's Interdenominational Missionary Union of Washington, D. C., at a cost of $2,000, in memory of Miss Bertha G. Johnson, Field Secretary of the Mission to Lepers. The cottage accommodates 30 leper women. There are five rooms, each room supplied with a fire-place. The projecting veranda is their meeting place.

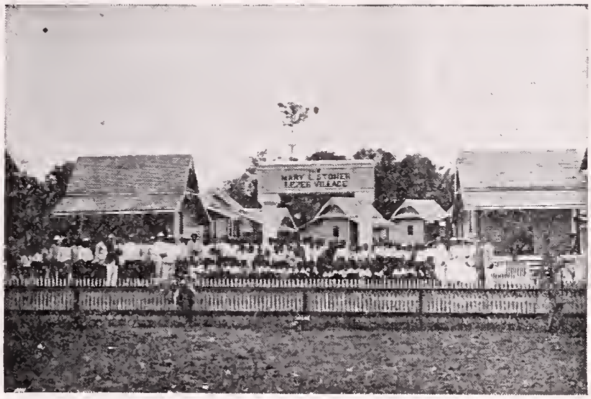
This photo was taken on dedication day. The people standing on the ground are lepers. Of the more than 200 lepers in the Asylum all but the newest comers are Christians.

We ask all friends of the lepers to often join us in prayer that every leper who shall ever come to this Asylum may become a true child of God.

Enquiries may be addressed to W. M. Danner, American Secretary Mission to Lepers, 158 Fifth Avenue, New York City, or to Dr. J. W. McKean, Superintendent Chiengmai Leper Asylum, Chiengmai, Siam.

What a joy to enter the Chapel this morning to find a large company of leper men sitting in quiet expectancy, clothed and in their right mind, free from fear and hunger and want, and knowing themselves to be Children of the King.

To be sure there were many fingerless hands that found some difficulty in opening the hymn-book at the proper place and there were many faces sadly distorted and far from attractive, but one might go far to meet a congregation of more earnest listeners to the Gospel message; and those disfigured faces shone with the true joy as they worshiped the True God.



CHIENGMAI LEPER ASYLUM, CHIENGAMI, SIAM

Partial view of Stoner Leper Village. The people sitting and those standing behind them are lepers, some 75 in all.

These cottages stand on brick pillars. They are well built in every particular. They are covered with burnt clay tile which will last for a century. They are amply large for two persons.

The living room is supplied with two bedsteads and bedding, two clothes closets and matting for the floor. There is thorough ventilation. The kitchen is furnished with a stove, cooking utensils, water jars, two dish cupboards and dishes.

Each cottage with furnishings costs One Hundred and Fifty Dollars.

Enquiries may be addressed to W. M. Danner, American Secretary Mission to Lepers, 158 Fifth Avenue, New York City or to Dr. J. W. McKean, superintendent Chiengmai Leper Asylum, Chiengmai, Siam.

It was a glad day. Eleven men and one girl received baptism and then they with others partook of the Sacrament of the Lord's Supper.

Outside the chapel sat one leper who had come to see and to hear. So far as we know he is the only one of our more than two hundred lepers who is not a Christian. He came to us yesterday having traveled many weary miles to find this Christian refuge, the only place in the Kingdom of Siam where he could possibly find a welcome. He is received with genuine Christian sympathy by his fellow lepers and we hope the day is not far distant when he too will be a true disciple.

This Leper Church, always interested in the extension of the Kingdom, was favored a few days since by a visit from Christian men from other provinces. Elder Nan Panya of Narn gave them an account of his recent visit to a district in Siam twenty-five days march distant. He had been sent by Dr. Peoples to spy out the land. He returned to say that the population of this province of Udon was very large, that the people were devout spirit worshipers and were in deep darkness, there being no Christian there and no knowledge of God.

The Leper Church was moved by this appeal for a needy region. Today following the Communion service they began a consultation among themselves as to their duty and privilege in the matter.

The quarters of the leper men and of the leper women are more than a mile apart and they cannot often meet together for service. Immediately following the men's service a second Communion service was held at the women's quarters. There are less than sixty women in the Asylum. All who were able came to worship in the comfortable airy veranda of the Bertha G. Johnson Memorial Cottage. After the sermon the Sacrament was administered. Individual cups are used. Indeed so far as we know the Leper Church was the first Church in Siam to use the individual cup.

It was noticeable that many of the women have no fingers with which to grasp the cup, in which case the leper elder places the cup between the two stumps of hands which are extended to receive it and to carry it to the mouth.

CHIENGMAI LEPER ASYLUM, CHIENGMAI, SIAM

Partial view of Stoner Leper Village. The people in the street are lepers.

These cottages stand on brick pillars. They are well built in every particular. They are covered with burnt clay tile which will last for a century. They are amply large for two persons.

The living room is supplied with two bedsteads and bedding, two clothes closets and matting for the floor. There is thorough ventilation. The kitchen is furnished with a stove, cooking utensils, water jars, two dish cupboards and dishes.

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Among the fingerless women is Grandmother Pan, gray haired, but youthful in heart and always ready with a smile. Her sorrows are not limited to herself alone as she has a grown son and a grown daughter in the Asylum. The son like herself is fingerless and she, mother-like, equally handicapped, waits on him. Recently I found her at work in her garden. "What are you doing Grand-mother" said I. "Why don't you see I am weaving a fence to keep the fowls from eating my vegetables." Sure enough here were the strips of split bamboo and by the aid of her stumps of hands and feet, for she has neither fingers nor toes, she was weaving a bit of bamboo fencing. Naturally of a cheerful mind, her sense of security and salvation in Christ has made her truly joyful.

Pa Su in addition to deformity such as grandmother Pan's is now blind. She asks for an operation to restore sight. Even though the operation should prove fatal to life she asks for it as she so earnestly wishes to see the light of day once more. But no operation can restore those damaged orbs and she must wait in darkness until the light of the better world opens to her.

After the service the minister and elders went to the various wards carrying the bread and wine to those too ill to leave their rooms. What wrecks of human bodies they are! Nang Chun has lost her voice. The cruel disease has changed her whole body as well as her face until one wonders how the spark of life still can hold out in such a crumbling tenement.

But all these dying ones rise on their couch to receive the bread and wine and to realize again something of the love that bought them. The only joy left to them is the joy of confidence in the loving Saviour who pitied and healed the leper.

And so the services ended. Amidst all the sad and distressing features of the visit there ran a joyful note: Joy that the Gospel of Jesus has brought a degree of physical comfort to the leper, but above all joy to the leper in the assurance that he is not cast out from God, that the sins of previous life are not being atoned for by his leprous sores and disfigurement but that on the contrary the merciful Jesus is his personal friend, Redeemer and Saviour as well as his present companion in all his weary and painful nights and days.

The lepers of this Asylum and those who have charge of the work are deeply grateful to every one who in any degree helps to maintain this Asylum. "Inasmuch as we did it unto one of these my Brethren, even these least, ye did it unto me."

May we not continue to ask that all Christian people everywhere will often join us in the prayer that every leper who shall ever come to this Asylum may become a true child of God.

Dr. J. W. McKean,
Chiengmai, Siam.

Third Councilor District Medical Society Meeting
Sept. 29, 1920

The first meeting of this Society under Councilor R. W. Fouts, M. D., of Falls City, was a great success. It was held in the Theatre building at Table Rock, a central location and commodious place of meeting. Every member except one on the program was present. The audience of sixty-five physicians listened to a highly instructive and entertaining series of papers and discussions. The feeling of good fellowship brought from co-operation in the practice of our profession, and satisfaction with the program and entertainment was expressed by the words and acts of everyone present. The address of welcome was given by Dr. E. L. McCrea of Table Rock. The list of papers presented and discussed, was as follows:

Osteomyelitis. By Dr. H. R. Miner, Falls City. Discussed by Drs. A. I. MacKinnon, H. W. Orr, W.

R. Boyer, C. A. Roeder, J. S. Welch, E. H. Skinner and A. F. Tyler. Closed by Dr. Miner.

The Occurence of Lethargic Encephalitis in Gage County. By Dr. F. W. Buckley, Beatrice. Discussed by Drs. G. H. Brash, A. L. Smith, W. Y. Thompson and A. I. MacKinnon. Closed by Dr. Buckley.

The Cooperation Between the State Bureau of Health and the Medical Profession of the State. By Dr. I. H. Dillon, Lincoln. Discussed by Drs. H. W. Orr, A. I. MacKinnon and P. H. Bartholomew. Closed by Dr. Dillon.

Pneumothorax. By Dr. Logan Clendening, Kansas City. Discussed by Drs. G. H. Brash, C. A. Roeder and M. L. Wilson. Closed by Dr. Clendening.

Diverticula of the Duodenum, Their Symptoms and Diagnosis. By Dr. A. F. Tyler, Omaha. Discussed by Drs. E. H. Skinner and C. A. Roeder. Closed by Dr. Tyler.

Therapy of Malignancy. By Dr. E. H. Skinner, Kansas City. Discussed by Drs. A. F. Tyler, A. L. Smith, J. S. Welch, P. H. Bartholomew, H. R. Miner, A. V. Robinson and C. A. Roeder. Closed by Dr. Skinner.

Accuracy in Urological Diagnosis. By Dr. Edwin Davis, Omaha. Discussed by Drs. A. F. Tyler, J. S. Welch, and C. A. Roeder. Closed by Dr. Davis.

The Estimation of Risk in Operative Goiter Cases. By Dr. J. S. Welch, Lincoln. Discussed by Drs. Logan Clendening, A. I. MacKinnon and C. A. Roeder. Closed by Dr. Welch.

The address by Councilor R. W. Fouts: "The County Medical Society, is it Really Worth While," was omitted for lack of time, but will be published in our official Journal.

The following resolution was adopted: Be It Resolved, that we, the members of the county societies of the Third Councilor District of the State Medical Association, do tender our thanks, first to the many physicians and surgeons from outside the district who have come, many a long way, in order to make this meeting the interesting and instructive one it has been.

Second, to the local committee of arrangements, Drs. McCrea and Harmon; for so perfectly providing a place of meeting and entertainment.

Third but by no means least, to our Councilor Dr. Fouts, who has made this meeting with all its pleasure possible.

The Councilor District Medical Society in Nebraska is the logical solution for enrolling all the eligible physicians in every county in the state. The officers of our State Association welcome propaganda now, for organizing an active society in every Councilor District.

Our 1921 Program Committee

Medical Section, Chairman, Frank M. Conlin, M. D., Omaha; Secretary, R. W. Fouts, M. D., Falls City.

Surgical Section, Chairman, Chas. R. Kennedy, M. D., Omaha; Secretary, S. R. Hopkins, M. D., Hastings; Joseph M. Aikin, Chairman, 519 McCague Bldg., Omaha.

Nebraska Gains Entrance to Registration Area

On August 28th the special agents of the Census Bureau completed their work in examining as to the number of death certificates being recorded in the Division of Vital Statistics of the State Bureau of Health, as well as making a thorough inquiry into the manner of securing these certificates and handling the records in this office. Their report was forwarded direct to the Census Bureau at Washington. On September 9th we were advised of the admission of Nebraska into the registration area for deaths, for the year 1920.

The representatives of the Census Bureau found there were being reported 96.3% of all of the deaths occurring in the state, for the state, exclusive of the cities of Omaha and Lincoln, each of which has a very efficient full time health department, there was reported 94.8%. We feel that this fine showing has been made possible by the loyal support and co-operation from both the physicians and the undertakers of the state.

The Census Bureau will return a crew of special agents to the state prior to January 1, 1921, to check up our work regarding birth registration. We have no knowledge of the exact time of their return or the months they will choose to make their examination, but we feel assured that with the hearty co-operation we are receiving from the physicians all over the state, the result will be a showing as good or better than for deaths.

I. H. Dillon, M. D.
Chief, Bureau of Health.

ABOUT THE DOCTOR

Dr. W. O. Bridges of Omaha, is home from his European trip.

Dr. Morris Nielsen of Blair, was a recent caller at the Journal office.

Dr. F. A. Barta, Ord, is doing post graduate work in Chicago.

A hospital has been opened at Julesburg, Colo., by Dr. E. P. Murdock.

The osteopaths are beginning to protest exclusion from the hospitals.

Dr. Andrew J. Edstrom of Omaha has moved to Concordia, Kansas.

Bethesda Home (hospital), Sioux City was opened about Sept. first.

The structural framework of the new Evans Hospital, Columbus, is up.

Dr. M. S. Moore of Gothenburg was a recent caller in the Journal office.

Dr. J. T. Aldrich, recently from New York, has located in South Omaha.

Dr. and Mrs. Wm. N. Anderson of Omaha have returned from their vacation.

Gordon has a new practitioner, Dr. G. F. Bartholemew formerly of Broken Bow.

Dr. A. L. Marstellar, Wilcox, made a 5000-mile auto trip as a feature of a summer vacation.

The new Fenger Memorial Hospital, Twenty-sixth and Dewey Ave., Omaha, is open for patients.

Dr. W. R. Talboy, Newcastle, spent his vacation motoring with his family in the Dakotas and Minnesota.

Dr. Lorain McCrea, surgeon in St. Agnes Hospital, Philadelphia, visited his parents at Table Rock last month.

The contract for a hospital building at the Milford Soldiers' Home was let for seventy-eight thousand dollars in round numbers.

It is reported that the estate of the late Dr. O. P. Shoemaker formerly a general practitioner at Clay Center, is valued at $250,000.

Father F. B. Tamanek, president of the Lynch Hospital, has undertaken to raise a fund of $100,000 to build a modern sanitarium at Lynch.

The corner stone of the Brown County Hospital, at Ainsworth was laid Sept. 11th, with impressive ceremonies under the leadership of the masonic order.

Dr. and Mrs. Claude W. Mason, medical missionaries to Indo, China, returned to Omaha Tuesday, one day after the death of the doctor's father, John B. Mason, 4724 No. 23rd st., pioneer resident of Omaha. Dr. Mason and his wife began their work as Presbyterian medical missionaries in upper Siam and lower China 14 years ago, one year after the doctor's graduation from the medical department of the University of Nebraska.

Society Meetings

The annual meeting of the Missouri Valley Medical Society was held at Omaha, Sept. 6th and 7th at the Hotel Fontenelle.

After dinner in the Fontenelle, Monday evening, Dr. Karl Albert Meyer of Chicago gave an address on "Ulcer cure following Gastric and Duodenal perforation."

Officers for 1920-1921 were elected as follows:

President, W. O. Bridges, Omaha, Neb.

First Vice-President, E. J. Watson, Diagonal, Ia.

Second Vice-President, Austin McMichaels, Rockport, Mo.

Treasurer, O. C. Gabhart, St. Joseph, Mo.

Secretary, Chas. W. Fassett, Kansas City, Mo.

The next meeting will be held at Kansas City, Mo.

DEATHS

Dr. Charles H. Davies of Tecumseh, died in an Omaha Hospital, Sept. 9th, following an operation for a ruptured appendix, aged 38 years. He was the husband of Dr. Dora Judkins Davies.

Dr. Rebecca Hanna of Red Oak, Iowa, one of the pioneer women physicians of Iowa, died in an Omaha Hospital, August 28th, aged 78 years.

Dr. Chas. T. Burchard, aged 64, Falls City, Neb., Rush Medical College 1879, died Sept. 5th.

Dr. George LeForest Miller, Omaha, College of Physicians and Surgeons in the city of New York, 1852; aged 89; founder and for more than twenty years editor of the Omaha Herald; died, August 28th.

MARRIED

Dr. U. S. Harrison of Neligh, and Miss Ruth Boerster of Chanute, Kan., were married in Omaha, Sept. 8th.

The secret of success lies in doing well what you can do and cutting out what you cannot.

Many a man who imagines that he is a born leader isn't even a successful follower.

Don't get the idea under your hat that other people think as much of you as you think of yourself.

According to the government Blue Book recently issued, this year's decrease in England and Wales in drunkenness was 37.35 per cent.

Self satisfaction always means weakness and a break in our connection with the source of power.

There is vast hope for us when we commence to be hopelessly dissatisfied with ourselves.

Help that wins is pity without patronage, and compassion without contempt.

A teacher is one that develops the will of man into the will of God.

There is a bigger thing than literature in this life; it is LIFE.

There is a great deal larger leadership than the leadership of intellect; it is the leadership of sentiment.

The world has never followed ideas; it has ever been moved by feeling. Feeling is elemental and precedes thinking.

THE NEBRASKA STATE MEDICAL JOURNAL

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Corneal Ulcers—Management and Treatment.*

Earl B. Brooks, M. D., Lincoln.

It is well known that ulcers of the cornea are very amenable to proper and energetic treatment. Many of the mild superficial ulcers yield to such simple measures as a protective bandage, hot applications, boric irrigations and atropine. On the other hand, ulcers complicating gonorrhoeal ophthalmia, sluggish traumatic ulcers in the aged, and the fulminating ulcus serpens are types which often baffle our most earnest endeavors and terminate in industrial blindness if not in panophthalmitis and total loss of vision. It is the latter which we wish to consider.

I wish to emphasize that given one of these infected ulcers, we should ourselves be alert to the seriousness of the lesion and without being alarmists explain to the patient the possibilities, and insist on his faithful cooperation. Incidentally, at the risk of seeming trivial, it is well at once to take and record the visual acuity.

I shall not attempt to enumerate the many measures medicinal and surgical, which have been recommended and used in the treatment of ulcer and with which we are all familiar. Suffice it to say, their name is legion and this in itself bespeaks their lack of specificity and effectiveness. However, recent research in ophthalmology has contributed some distinct advances in therapeutic accomplishment especially with reference to the bacteriology of ulcer and its chemo and thermal therapy. The appearance and clinical history will be sufficient to diagnosticate certain types of ulcers, but microscopic examination of the scrapings from the ulcer will usually be helpful not only in making a differential diagnosis, but also in determining the prognosis and treatment. The examination is best accomplished by first cocainizing the eye; then with a sterile Graefe knife curetting gently the floor or outer margin of the ulcer. These scrapings are fixed, stained by the Gram method ,and examined.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

In phlyctenular keratitis staphylococcus pyogenes aureus and albus are found. Despite the fact that 88% of cases of phlyctenular disease give a positive reaction to tuberculin, tubercle bacilli have not been found.

In ulcers complicating gonorrhoeal conjunctivitis the gonococcus is present. These ulcers develop during the purulent stage of the conjunctivitis. They vary in size and may be centric or peripheral. In the latter position they present grooved rings or clean cut lesions hidden by the swollen and edematous surrounding conjunctiva. If centrally located, the germ may find ingress through a break in the epithelium. They are very prone to perforate.

Ulcus serpens gives a characteristic clinical picture, a purulent area usually in the middle of the cornea, presenting a superficial punched out appearance and a progressive border. Under the loupe one sees fine opacities radiating outward from this centric lesion. Without treatment it spreads, rapidly involving the entire cornea. There develops a total leucoma, sometimes staphyloma. Often there is pus in the anterior chamber. It is worthy of note that ulcus serpens occurs most frequently at the harvest time. Incident to the farm work, infection of the conjunctivae and lachrymal ducts is quite prevalent. Their secretions frequently contain the pneumococcus. Small injuries through sticking into the eyes, of beards of grain or the hitting of the eye with grain while threshing furnish the atria through which infection readily enters.

Uhthoff and Axenfeld (1) in 1894 and 1896 demonstrated that the cause of this typical recurring ulcer was in most cases the pneumococcus. This micro-organism is frequently found in these ulcers in almost pure culture. In a smaller number of cases the diplo-bacillus of Morax-Axenfeld is the cause; while the streptococcus, staphylococcus, bacillus of Petit, bacillus subtilis (Zur nedden), and bacillus pyocyaneus constitute the cause in the remaining small group.

Despite the fact that textbooks attempt to make a positive differentiation between pneumococcus and diplobacillus ulcer it is clinically impossible to do so. It is therefore important that we avail ourselves of the aid of the microscope as it points out the proper therapy. Axenfeld in 1904 introduced zinc sulphate as a specific against diplobacillus ulcer. A ½% solution is dropped into the eye ten or twelve times daily allowing the zinc solution to bathe the cornea for several minutes each time if possible. Likewise, Morgenroth in 1914 brought forth ethylhydrocuprein for the treatment of pneumococcus ulcer. As soon as the diagnosis is made a small pledget of cotton saturated with a fresh 2% solution is applied directly to the ulcer. The lids are closed and the application allowed to remain for five or ten minutes. Then a ½% solution is dropped into the eye twelve or fifteen times daily.

I pause to digress and say that we have, all of us, been provoked at times by carelessness or indifference on the part of nurses and patients as to the details of treatment. It goes without saying that in these eye affections as elsewhere, eternal vigilance is the price of success and these frequent applications are well repaid by the more rapid healing.

Under the corneal microscope a cleaning of the ulcer and brightening of the radiating opacities can be observed after five or six hours treatment, and in two or three days in fresh cases very marked improvement is noted macroscopically. In severe cases the accompanying pus formation in the deeper layers is more stubborn and fifteen to twenty-five days may be required to heal the ulcer. In these cases the 2% solution may be used more frequently. Patton reports applying the powdered ethylhydrocuprein to the site of the ulcer and rubbing it in. This was attended with good results.

The action of the drug is rather superficial and the rubbing in of the powder evidently facilitates the penetration of the drug to the deeper layer of the ulcerated corneal tissue. Following this procedure as well as the application of the 2% solution a slight desquamation of the corneal epithelium may be observed which quickly disappears. It is imperative that a fresh solution be used. With this drug the course of the ulcer is materially shortened and softer and thinner opacities are obtained than by former therapy.

Many workers who were unable to obtain ethelhydrocuprein during the war used the various salts of quinine, as quinine bisulphate or quinine hydrochloride in 1% aqueous solution with beneficial results. A certain number of ulcers show a tendency to progress in spite of chemotherapy, hygienic and supportive treatment. Others after the subsidence of the acute symptoms manifest a torpid stage showing no tendency to heal. These were formerly treated with various measures. Scraping with a curette; application of various chemical caustics; silver nitrate; nitric acid, carbolic acid, trichloracetic acid, tincture of iodine, etc., and failing, these actual cautery, either with the Paquelin or galvano cautery point. The latter is a most potent agent in arresting the ulcerative process but there is observed at the point of cautery complete destruction of the corneal tissue with considerable thinning. This may produce perforation or favor it during cicatrization.

In 1910 Weekers (2), working at the University of Liege, ascertained that cultures of the pneumococcus are sterilized in twenty-four hours at a temperature of 42°C. (108F); in ten minutes at 56°C. (138F); and instantly at from 65 to 70°C. (149-158F). In the same way cultures of the Morax-Axenfeld bacillus are killed in five minutes at a temperature of 56°C. (131F). He endeavored to attain a temperature which without killing the microbes would destroy their virulence and sterilize the ulcer without destroying corneal tissue. This is the principle of sterilization or pasteurization which we use in the bacterological laboratory in the preparation of cultures with a serum base. He used the galvano cautery point heated to a red heat and held it near but not touching the ulcer for one minute. By experiment he learned the degree of redness of the cautery point necessary to maintain a thermometer bulb held near it at 50°C. (122F) for one minute. With this method which he called chauffage he succeeded in checking the extension of ulcus serpens. There was diminution or disappearance of the hypopyon and the patient's pain was relieved. By means of experiments on the eyes of animals he studied the comparative effects histologically of the actual cautery and chauffage. After cauterization there was complete destruction of corneal tissue. The cautery effect extended to a certain distance beyond the loss of substance. The subsequent process of repair showed abundant proliferation of the anterior corneal epithelium. Some proliferation of true corneal cells as shown by the subepithelial infiltration and beneath Descemet's membrane a dense mass of cicatricial tissue due to proliferation of the posterior endo-thelium. The effects of chauffage were much more superficial; consisted of epithelial swelling and slight edema of the corneal parenchyma. No loss of true corneal tissue.

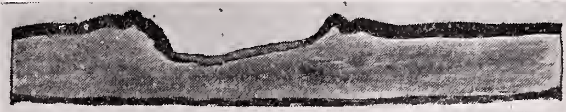

Fig 1. Effect of cauterizing the cornea for superficial ulcer. Eye immediately enucleated. (After Weekers).

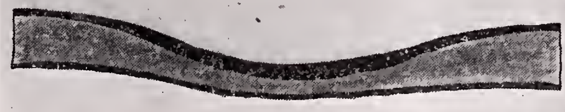

Fig 2. Effect of cauterizing the cornea as seen at the end of three months.

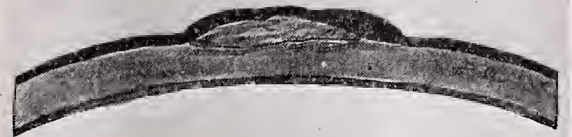

Fig. 3. Immediate effect of the "chauffage" without cauterization.

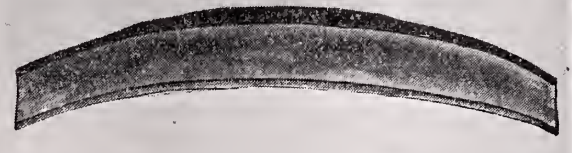

Fig. 4. Ultimate restoration of cornea almost complete after "chauffage." (Weekers).

More recently Prince (3), Shahan (4) and others applying this same principle have devised various instruments and technique for using them. Prince used an elongated egg shaped, copper ball the size of a large filbert mounted on a metal handle. This "pasteurizer," he held in the flame of a spirit lamp until it was red hot and then held it close to the ulcer without touching it, for one minute. He reports some very brilliant results. The writer used the pasteurizer on several cases he thought with rather indifferent results. However, the fault may have been in the technique rather than in the instrument or its principle of application.

Shahan built a thermophore suitable for one minute application.

This consists of a nickel plated brass applicator (several applicators of different sizes and shapes are provided) hollowed out to receive the bulb of the thermometer. The applicator is snugly fitted into the end of a hollow case made of brass, at the upper end of which is a locknut for holding securely the thermometer. After heating to the desired temperature over a spirit lamp or bunsen burner the core is inserted into a case lined with felt which serves as an insulating jacket for retaining the heat.

The cornea is anaesthetized with 5% cocaine in 1-4000 adrenalin solution. The instillation of a drop of fluorescin is helpful in determining the exact location and extent of the ulcerative process. The thermophore heated to 152°F is applied directly to the ulcer for one minute. The application is painless. There is a coagulation of the superficial epithelial layer giving a milky appearance, though this soon disappears.

Last year while on service at Camp Hospital No. 33 Brest, I was privileged to observe with Capt. A. E. Ibershoff, a series some twenty cases of corneal ulcer treated with a hot water thermophore arranged by him. In this instrument the thermometer was fastened in a metal tube containing a considerable quantity of water at 155.° At the apex of the tube was a small aperture through which the hot water flowed into an outer tube at the point of contact with the eye. This instrument was based on the principle that water radiates its heat much less readily than metal. Thus it was hoped to obtain a more even temperature than is possible with the all metal thermophores. In our cases the period of recovery varied from five to fourteen days with one exception—that of a colored boy who developed a panophthalmitis with complete loss of vision. Since returning home I have used the above described Shahan model on several cases and can confirm the good results of other observers. Namely, there is a cutting short of the progress of the ulcer, amelioration of the iritis and relief of pain.

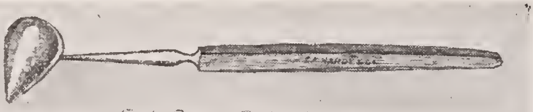

Fig. 1. Prince Pasteurizer

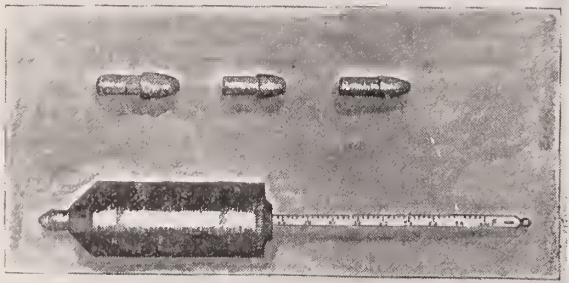

Fig. 2 Shahan's Thermophore, showing applicators of different sizes and shapes.

As to how this action is produced; it is claimed that pasteurization with the thermophore (1) destroys the organisms in the substantia propria, (2) Causes an expulsion to toxins, dead bacteria, etc., by a lymph flow established shortly after the application. (3) Produces a general leucocytosis of the cornea which reaches its height two or three days after the application. Untoward results in the production of cataract from undue heating of the crystalline lens have not been observed.

The thermophore doubtless has its limitations; however, it affords us a method whereby the degree of heat, the duration of its application and the exact area to which it is applied can all be controlled and is therefore a distinct improvement on former methods.

The possibility of infection of the conjunctival and lachrymal sacs being associated conditions contributing to the cause of ulcer has been mentioned. At other times the teeth, nasal accessory sinuses and very occasionally the tonsils may prove to be foci of infection. In ulcers which do not heal promptly, these should all be interrogated. A Wassermann test, tuberculosis fixation or tuberculin test may prove corroborative. In the matter of treatment of the resulting corneal scars, fibrolysin, thiosinamine ointments, etc., have not been productive of definite results in our hands.

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Discussion.

J. M. Banister, M. D., Omaha.—I think the doctor has touched upon a very interesting point in bringing ulcers before a meeting of this type. There is one point I do not know whether the doctor made, yet he may have done so before I came into the room, and that is the marked connection between pneumococcic ulcer and a chronic dacryocystitis, in which the pneumococcus is almost invariably the morbific agent. This brings into view of the general practitioner doing a good deal of country practice a very important point: What shall we do to prevent these conditions, which occur almost invariably in the laboring class? You seldom see one in a man living at ease in the city. It is due to some lesion in the cornea which opens an avenue of entrance to the pneumococcus. I think it is coming fast to be considered a very legimate and excellent protection in all of these cases to destroy the lachrymal sac. The eyes of 60 percent of these cases may thus be saved, because in 60 percent of them the infection is of this type. An early chronic pneumococcic infection of the lachrymal sac is not going to get well by itself. The thing to do is to remove the sac, and thus remove a fruitful source of danger to the cornea. In an actual case of ulcus serpens of the cornea with a simultaneous dacryocystitis, the lachrymal sac should be obliterated before we can expect much result from the most efficient treatment of the ulcer itself.

H. B. Lemere, M. D., Omaha.—At the meeting of the American Medical Association, Dr. Post showed a revised model of Dr. Shahan's thermophore in which he has an electric apparatus which keeps the temperature at the desired point. I should like Dr. Brook's opinion on this.

S. E. Cook, M. D., Lincoln.—When Dr. Prince several years ago made his announcement in regard to the application of heat to certain types of corneal ulcers I immediately sent for one of his instruments. Before it arrived however I utilized an electric cauterizer made for work in the nasopharynx. This is a spiral cone in shape which by properly bending the shank made an ideal instrument for sterilizing the cornea. I liked it so well that I have never made use of Prince's instrument. With a proper transformer the electrode is brought to a dull red heat and repeatedly, though for but a few seconds, it is brought as close to the cornea as possible without touching it. In the case of streptococcic ulcers the results are nearly always excellent.

Recently a new antiseptic has been brought to our attention. Mercurochrome-220, introduced for sterilizing the bladder, gives promise of being useful in septic diseases of the conjunctival sac and cornea as well. The reports so far, though meager, are favorable. Possibly we have in this agent when it becomes available a valuable aid in combatting these troublesome and dangerous conditions. My understanding however is that Mercurochrome-220 is still a laboratory product.

Dr. Brooks, in closing: I want to thank you for your courtesy in staying long after the hour, and for your kindly discussion.

The electric thermophore is marketable at present. At the time I began my work with the other model, Dr. Shahan had not perfected it.

As to the mercurochrome, Dr. W. B. Lancaster of Boston gave a preliminary report of some work at the American Medical Association, with favorable results. Personally I have had no experience with it.

Empyema.*

Bartlett L. Shellhorn, Peru.

My purpose in writing this paper is not to present anything with which you gentlemen are not already familiar but simply to briefly describe the type of cases of empyema we came in contact with in the army service.

Empyema or purulent pleuritis is rarely a primary trouble but is usually secondary to pneumonia, occasionally to tuberculosis and frequently may be due to trauma of the chest.

The usual type of case is the one that came to sick call on a litter or entered the hospital after an ambulance call at any hour of the day with all the classical symptoms of an active pneumonia; chill, followed by high fever, bronchial breathing, and definite pleural pain. The more acute and severe the pleural pain the more we expected to have an empyema to deal with eventually.

The type of patient also gave a definite hint of the prognosis. Anemic, poorly nourished men, those having what might be termed a septic appearance, were most often affected. As to the type of pneumonia from a laboratory standpoint, I cannot say authoritatively, but in my own experience I have never seen empyema follow a case of type I pneumonia. Nearly all our cases followed type IV pneumonias with a very few type II.

The pneumonia always pursued a definite course to about the end of the first week when the patient would seem to pass a more or less distinct crisis, not a sharp pronounced crisis as one usually meets in a clean cut lobar pneumonia of type I, but a half hearted crisis, particularly prone to occur in the broncho-pneumonias. After a day or two of encouraging progress we would find our patient running a gradually increasing evening temperature, frequently followed by a heavy sweat. Fluid could not yet be detected in the chest by the usual signs.

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*Read at a meeting of Nemaha County Medical Society, June 10, 1920.

I have seen several aspirations, done early for diagnostic purposes, fail utterly to locate the fluid in cases that later were pronounced empyemas. One would find, however, a dull woody sound on percussion, indicating a delayed resolution. Later on as the fever became more pronounced and more intermittent, with an occasional chill of toxemia, the more definite signs of fluid would be present; increasing dullness on percussion; loss of tactile fremitus (to me the most reliable of the earlier signs); obliteration of intercostal spaces; displacement of the heart, if on the left side; and finally, an oedema of the chest wall producing that waxy, glazed appearance of the skin. Pain would also be much more marked on coughing or bodily movement as the fluid developed and the tension in the pleural cavity increased. Respirations would be more rapid and shallow.

During all this accumulation of signs of fluid we would be watching the blood count for the expected leucocytosis. This was our guide for operative interference. We never failed to have good results if we delayed the operation until a marked leucocytosis was present but in several cases where an early operation was done the result was fatal. There seemed to be a flare up of the pneumonia or a sort of reactivation that was disastrous. Captain A. A. Hobbs and Lieut. Thompson, who had charge of the Sweeney and Rhae schools hospital in Kansas City, where the number of empyema cases was great, told me this point was especially emphasized with them in the results obtained in their command. I cannot account for this condition except that I believe too early an operative interference unbalances nature's method of protecting the patient, through the avenue of the white blood corpuscles.

With us, the first step in the operative procedure, was an aspiration with a long slender needle to confirm our diagnosis. If the fluid thus withdrawn was of a cloudy, purulent appearance a thoracotomy was done at once, and the further laboratory examination was done as a matter of routine for record purposes only. If the fluid was clear, devoid of any precipitate, we waited for the laboratory findings before going any further. I remember distinctly a case of this kind in which the fluid was sterile after 24 to 48 hours incubation. This man's primary trouble was a typical but mild pneumonia followed by marked signs of fluid in the chest. He was aspirated repeatedly, large quantities of sterile fluid being removed. This gradually decreased in amount, but up to the time of his transfer, some six months after the primary attack, it had not yet completely cleared up. A diagnosis of tuberculosis was finally proven through the inoculation of guinea pigs with the fluid withdrawn.

The choice of operation in the usual type of empyema with us was a thoracotomy done under local anaesthesia. Stress was laid on two points, first, to insert the largest drainage tube possible, and secondly, to insert the tube at the most dependent part of the cavity. We were thus able to get thorough drainage with a minimum amount of shock to the patient. Thoracotomy is not extremely painful and does not especially frighten one's patient, a point of considerable value to the morale of a ward where a number of men are expecting to be the next on the way to the operating room. Rib resections were done only where for some reason it was impossible to get satisfactory drainage with a thoracotomy. This was usually in cases where the pleura was greatly thickened by the inflammatory process or in cases where small pockets of pus proved severely toxic but difficult to locate. None of the so-called vacuum methods of drainage were used by our surgeons as they were not looked upon as being sufficiently valuable to warrant the extra precautions required in their use.

After treatment consisted in frequent change of dressings, plenty of nourishing food, abundance of sunlight, and as soon as possible, out-door exercise. Dakin's solution 1% was used as an irrigation in about 50% of the cases with appreciable benefit in clearing up the discharge.

I have purposely omitted to mention the X-ray for diagnostic purposes as we were without a portable machine and our patients were too sick to take to the X-ray laboratory. During convalescence frequent fluoroscopic examinations and plates were made. We were thus able more definitely to check up the progress of our cases, especially as to the overcoming of lung collapse.

Conclusions.

Early operative interference, before nature has definitely built up her wall of defense, is often fatal. Marked leucocytosis is the best indication for operation.

Thoracotomy, well done under local anaesthesia, produces less shock at a critical period and is generally sufficient.

Rib resection should be secondary in consideration and resorted to only where thoracotomy has failed.

What Shall We Do With the Old Folks?*

Wm. S. Fast, M. D., Superintendent Ingleside Hospital for the Insane.

In reality the subject of my paper should be senility. It is not my intention to enter into a scientific discussion of the subject, rather the purpose is intended to introduce a few practical facts to the physicians of Nebraska pertaining to the care of the aged.

When it becomes necessary to take from his home and place a young man, who has suddenly become mentally deranged, in a Hospital for the Insane, the community on hearing of the same is more or less shocked. Often the active, well to do, middle aged farmer is compelled to leave his family and for a while reside at a Sanitarium or a State Hospital; it often occurs that the mother of a family of small children is compelled to take up her residence temporarily and occasionally permanently in one of the State Hospitals, where persons suffering with mental and nervous diseases are cared for and treated.

Unfortunately quite a number of active men and women of mature years from overwork, worry, poor elimination, etc., etc., become afflicted with a form of mental trouble, which if recognized sufficiently early yields to treatment in a great majority of cases, and in a few weeks or a few months these men and women return to their respective homes and again enter into the activities of their various communities.

The very sad picture incident to State Hospital life and the one that produces a violent shock to the community from whence the patient comes, is the commitment of the old grandmother or grandfather, having possibly lived to the age of eighty or more.

The old man has become childish, he is more or less restless at night, he doesn't see well, his hearing may be impaired, he becomes more or less critical, he is considerably in the way. It possibly necessitates his son or his son's wife, or one of the older grandchildren remaining at home occasionally, so that the old man may have company while the others go to church or to the picture shows. Or possibly it is the grandmother who raised a large family and whose children are now grown and have families of their own. The old lady is too feeble physically and too infirm mentally to care for herself, her judgment is poor, she doesn't particularly like her son's wife in whose family it is necessary for the old lady to stay, while grandmother's disposition was beautiful as a girl and as a young woman and even until the last year or two she was kind; now, because of her infirmities, she is in a way unkind and slightly abusive to her little grandchildren. What can this family do with the old lady? What should they do with her?

The aged are prone to attacks of senile dementia. Male and female suffer about equally. The disorder rarely appears before the sixtieth year, although a pre-senile condition may be noticeable in certain cases between the ages of fifty and sixty, more often true senility or senile dementia per se appear between the ages of seventy and eighty. In most cases arteriosclerosis takes part in the causation of the disease, inducing as it does, general malnutrition of the brain as well as frequent local manifestations of degeneration. One of the earliest physical symptoms of approaching old age is the arcus senilis. This ocular condition is noticeable in many cases before other evidences of senility appear, another early symptom is failure of memory.

The most recent memories disappear first and the patient seemingly is living in the past rather than in the present. After a time if the condition progresses the patient may fail to recognize any of his surroundings or any of the people about him, but will converse intelligently concerning affairs and conditions occurring years ago. He converses with friends near him and mistakes them for old friends of years gone by. As memory fails, the old man or the old woman becomes more infirm and feeble both mentally and physically, the old memories even vanish and the patient becomes more enfeebled and child like.

The patient may commit many breaches of decorum and later with more brain degeneration, the patient, who a few years before and possibly during all of his former life had been kind and considerate, ethical and decent, now may become negligent, unclean and indecent in his habits, he may attempt to steal and destroy things, he may develop unfortunate habits with no sense of shame. The loss of judgment may induce the patient after senility approaches to foolishly squander his money and properties. Delusions of persecution and sometimes of grandeur make their appearance, hallucinations are frequently noticeable. The senile man or woman almost invariably has the idea of approaching poverty and it is not uncommon for the aged to attempt to horde money and food. The conduct of these patients relative to night and day is worthy of note. Their hallucinations and emotional characteristics almost always become more pronounced at night. Another striking feature is the extreme motor restlessness at night. These patients try to get up from bed, to wander about the house and to get away from some one or something, when at the hospital they usually want to go home, when at home they want to go elsewhere. Many of the senile cases sent to the hospital present a milder picture and have fewer symptoms than those enumerated. Somes cases have symptoms much more pronounced.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

A class of senile patients with another train of symptoms is frequently sent to hospitals for the insane. Almost daily and certainly many cases every year are sent to various State Hospitals in this state and in other states, with the primary object in view to shift the burden of care upon the state. The class referred to is the old man or old woman paralyzed and helpless, or infirm from other causes; possibly the bedridden old man or the bedridden old lady are in the way of the grown up children, or this old man or this old woman may be a County charge and the burden of care is placed upon the keeper of the County Home. Essentially the man in charge of the Home is a farmer. He wants the fairly able bodied men and women and he does not want the old and the infirm. By stretching his imagination he very often convinces the members of the Insanity Commission of his County that this old man or this old woman is insane and that they should be sent to the asylum. These old folks do require care, and they are sent to Hospitals for Insane and cared for probably better than they could be in the present County Home, but many of them are not insane in a true sense of the word and it is an imposition on the State authorities and certainly an unkindness to the unfortunate old man or woman to have them adjudged insane when in reality they are not.

In true senile dementia we have a variety of mental symptoms. The patient presents a picture at times of simple depression, other times of profound depression with possible attempts at suicide. At other times they become agitated mentally and present a picture of mania as acute and pronounced as many maniacal cases suffering from manic depressive insanity. Occasionally the brain changes and the mental deterioration continue and progress until there is a state of complete dementia.

In these three conditions enumerated above, we feel that the patient can be best cared for in a Hospital for the Insane, but with the old folks suffering only from old age and not from mania, depression or dementia, we feel that such cases do not belong in the Hospital for the Insane.

Senile cases comprise from twelve to fifteen per cent of all admissions to the various State Hospitals in our country. Ingleside Hospital admits on an average of about 250 patients annually, twenty-five to forty of which are from seventy-five to ninety years of age and out of this number, in my opinion, only a small per cent require and should have treatment in a Hospital for the Insane, at least seventy-five per cent of these old folks could be cared for in the homes from whence they came. This, of course, includes the considerable number that are sent to us from the County Farms and County Homes. I get the impression from county officers and the relatives of these aged patients that often the county doctors or the home doctors have advised sending these old folks to the Hospitals for the Insane. I am led to believe that many doctors are inclined to be too ready to acquiesce and advise the family or the poorhouse keeper, really against the good judgment of the physician. The relatives of these old folks often come to us, as I am sure they go to their family physician, and say "Don't you think now that father or mother had better be taken to the Hospital for the Insane, etc., etc." In many cases we find that the home doctor has given such advice because the people were wanting such advice.

It often occurs that a man or woman eighty or ninety years old is brought to us adjudged insane and regularly committed to the Hospital for the Insane, and within three or four days we receive protests from certain members of the family, maybe in a distant State requesting that we release such patient to them, and if we feel that the patient can be cared for in a private home, we will always be pleased to arrange for his release.

We who have passed the meridian and whose heads are becoming bald and whose hair is becoming gray and even the younger physicians should carefully reflect and realize that only a few more years and we will be the old men and possibly in the way of some of the younger folks. What will our prospects be when we become, if we are fortunate or unfortunate enough to reach seventy-five or eighty-five or possibly ninety years of age? Our bodies will be infirm and our minds may be childish. If we don't watch out we too are likely to be adjudged insane by a well meaning, but possibly over accommodating Insanity Commission. For fear they get some of us later we should be very careful concerning our advice to the laity in such matters.

Public opinion is against sending these old folks to the Hospitals for the Insane. Our duty to one another as man to man demands that we be mighty cautious in our advice.

We have discussed the conditions found among the extremely aged, but we have not as yet answered the question embodied in the subject assigned me "What shall we do with the old folks?" If I have an opportunity to advise, I say to the family that this patient should be cared for and treated possibly very much like the child who may be ill and always for a while try to keep him at home. Put the patient to bed, if necessary bromides to quiet the mental agitation and restlessness or if there is a real brain irritation hyoscine in combination with morphine preferably the H. M. C. given hypodermatically will produce rest and quiet. If the patient can be cared for during the excited state, which usually lasts for only a very few days then he will get up and about and continue in his usual health for possibly weeks and months.

If this patient is sent to a Hospital for the Insane he will be treated similar to the plan outlined above and in a few days he is likely to come to himself and be nearly normal and as soon as the acute symptoms disappear he will realize that he is away from home and his great desire will be to return. He has been adjudged insane. We are ordered to keep him at the hospital. It very frequently occurs that these old men and these old women begin longing for home and grieving night and day until within a week or two they become exhausted. Fortunately in many cases we are able to get the patients reconciled and they may live on for months and years. At present one of Nebraska's largest Hospitals for the Insane, accommodating about 1200 patients, has among its patients more than 200 senile cases.

In the ninth biennial report of the State Board of Charities and Corrections, Secretary E. M. Johnson made this recommendation: "In order that all those who have by misfortune or other causes become dependent upon charitable support may have proper care and comfort we favor the establishment of a State Home for Aged and Indigent People where those who otherwise would be county charges may be sent and cared for at county expense." In my judgment Mr. Johnson's position on the subject is well taken. There is a certain small percentage of these aged and infirm patients who require care and treatment in the Hospitals for the Insane. The other large percentage of them need hospital and infirmary care,away and apart from the insane. The establishment of a State Home for the Aged and Indigent People or the establishment of County Homes, not poor houses, may be a partial solution of the question, but at best it will take years and years to develop this more or less new idea presented by Mr. Johnson and until State Homes and County Homes can be established we should do our very best by these old folks and decide honestly and fearlessly what is best to do with these individuals who unfortunately in their old age have become a burden to their people.

Discussion

G. Alexander Young, M. D., Omaha—It was a source of much satisfaction when I heard that the Program Committee for the Society had decided to give an afternoon to a Symposium on State Institutions. For a number of years I was connected with a State Institution myself, and for the last eighteen years have been actively engaged with individuals suffering from some form of mental maladjustment. By that I do not mean simply insanity, but I mean also nervous diseases, so called hysterias and nerrasthenias. I also mean the criminal, the petty and juvenile offenders, and any others perverted mentally. In other words, the question of insanity and the insane in the State Institutions is only a part of a larger problem, and that is the adjustment of the individual to the restraints and demands which organized society places upon him. I think that the basic fact we all ought to carry away in our minds is that this matter of mental hygiene is not a matter of insanity alone, but a matter which has to do with the other social problems of the semi-neurotics and the criminal and the petty offender, and all those phases of conduct which are detrimental to the social life of the community.

As I have seen this problem of mental hygiene, it seems to be divided into three phases or aspects: The economic phase, the social or sociologic phase, and the purely medical phase.

A brief idea of the economic importance of mental hygiene can be gained by noting that there are probably 350,000 insane patients in our State Institutions; that is, in the hospitals for the insane. These patients cost probably somewhere around 65 million dollars yearly to keep them up. The expenditure for the institutions in which they are housed amounts to over 200 million dollars—the cost of the institutions. Now that is the cost of caring for the individuals who are actually insane. It has nothing to do with the economic loss arising from the non-productiveness of these patients.

The statistician of the New York Board of Lunacy found in 1918 there were 971 patients admitted to the State hospitals of New York suffering from cerebral syphilis alone. He estimated the economic loss to the State as being over five and one-fourth million dollars. When we consider the amount of mental stress the nervous individual goes through, and the consequent waste of mental energy and that many of them are not suffering from things they can't get away from, but are suffering from curable conditions; and when we consider the enormous number of such individuals, you can imagine the economic loss to the community.

Now we have the social side. After all, the function of the mind is to enable the individual to adjust himself to his surroundings. Take the one who becomes insane. It is not only his or her affair. It is the affair of his children, of his wife, his friends. No person can become insane without affecting a large number of people about him. The impression made upon their children, not only by insane parents, but by those who are poorly adjusted to life—cranky, irritable or dissolute—is enormous. We have only to go to our juvenile courts and go over their case histories to understand how important this matter of social hygiene is. In that court we are getting the early stages of the development of the psycho-neurotic and of the criminal.

There has been a movement on foot for the last twelve years that is fostered by the National Society for Mental Hygiene, which is spreading over the country. It is under the directorship at the present time of Dr. Salmon. It is advocating the intensive study of the psychological problems of society. For instance, Dr. Crummer has spoken of the Phipps' Psychiatric Institute in Baltimore. Just recently assistants of that Institute have been going into the cities to start conferences for the maladjusted, and taking care of a wide range of individuals who come to them voluntarily to get cured of their nervousness.

I would like to mention the magazine of this National Society for Mental Hygiene. It is called simply "Mental Hygiene." I think it is a magazine that should be in every doctor's library.

Now for the medical side. The general rate of recovery in the State institutions is somewhere between 20 and 25 percent. I think that can be increased. There are two methods of treatment of the insane in vogue at the present time. One is the direct physical treatment of the individual, which takes care of all physical disease which is present—infection, for instance. The theory of focal infection has its ardent advocates, and, I think, justly so.

Then there is the psychological avenue of approach, which is likewise productive of a great deal of benefit, not only in the stages before the individual has become insane, but also after his recovery, to prevent relapse. That is another activity of this National Society of Mental Hyiene. They have established social centers around the different hospitals where trained workers can go out and interview the patients and institute a sort of follow-up care, to give the individual a greater sense of contact with the community.

Dr. Crummer has brought up the question of the psychopathic institute. I think it is a thing of which we are greatly in need. We need it because there is a certain disease that tends to affect physicians in the state hospital service. I speak knowingly, because I spent about seven years in the state hospitals myself. You might call that disease "hospitalism" or "institutionalism." It is a mental disease in which the individual gets into a routine of life and loses interest in the problems around him. That is no slam on the present state institution physicians. But a state psychopathic clinic, situated, as Dr. Crummer has suggested, in connection with the laboratories of the University of Nebraska would provide a place where every assistant physician in the state hospitals could go and spend a month once a year, and so keep his interest alive. It would be a place for intensive study and research in mental disease. It would be a stimulus to the profession at large, and would be of very definite benefit to the community. I think it is a project that is well worthy the support of every one.

It has been a very great pleasure to me to hear these papers by Doctors Crummer and Fast. The case of the insane is a big problem, but it is only a part of the larger problem of mental hygiene. The doctor is in a position to help solve that problem by disseminating the precepts of mental hygiene, and to that end I would recommend to you for interesting reading and for the acquisition of a broader outlook upon nervous and mental diseases, this magazine called "Mental Hygiene."

Harry W. Benson, Oakland—I was very glad to see this question come up in these splendid papers dealing with State institutions. I spent seven years doing work for the State, and naturally am very much interested.

Two or three thoughts came to me. I want to say every man here is interested, or should be, in everything pertaining to our feeble-minded, our insane, and people under the custody of the State. Right now there is a very active movement in connection with the Children's Code Commission, to establish a psychopathic clinic or laboratory for the study of children who are the result of the sins of their fathers, or perhaps the accidents of life. Every man in general practice who goes out throughout the schools in the country will see in almost every school some child who is mentally deficient or under par. It is impossible to take care of these children in the correct manner unless we have a sort of clearing house in the way of a psychopathic hospital or clinic where they can be taken care of, just the same as with your cases of insanity.

I think Dr. Crummer has struck the right chord when he advocates a readjustment of our law of commitment in the counties. I think it is a farce. In many cases, with such readjustment, the patients would willingly go to some place for diagnosis and proper placement.

I want to urge upon you to inquire into and use your influence in getting some of these very valuable suggestions before the Children's Code Commission, and the other commissions working to make their recommendations to the coming legislature.

The placing of a psychopathic clinic with the University Hospital brings up an important question. If it is put with the University Hospital we may get a dominance which is undesirable. The proper kind of a psychopathic clinic should bring into correlation all these splendid men and women working along different phases of welfare, so as to bring them into cooperation in the selection of a Board that is properly adjusted to meet all of the varying conditions. Medical men often take a dominance if it is placed under medical supervision.

I make the suggestion that you get busy and use your influence to help solve some of the problems presented today.

George E. Charlton, Norfolk—I was glad to hear Dr. Crummer's address, and also enjoyed Dr. Fast's paper.

There were several subjects touched upon in Dr. Crummer's address, which should be considered by this body. One of his statements was 'that the physicians of the State should become more familiar with the State Institutions. This is absolutely a fact. It is surprising how little the doctors know of what is being done, and what should be done, at the State Institutions. If a program similiar to the one presented this afternoon could be followed up at future State Meetings of this body, a great deal of good would be accomplished.

The doctor mentioned a psychopathic hospital. This is a hobby of mine. In my biennial reports, I have twice recommended the establishment of a psychopathic hospital, preferably in Omaha, in connection with our State University. The benefits would be not only immediate, but far-reaching.

There is a tendency, and we are glad to see it growing less, for the people to dread the idea of having their relatives committed to the state hospitals for the insane. The establishment of a psychopathic hospital would, in the first place, bring to that institution our earlier cases, which the attending physician cannot send to our state hospitals.

Dr. Young mentioned the fact that we, of the state institutions, are more or less liable to get into a rut. I would agree with the doctor, and believe that this may be due to lack of interest of the physicians of the state in our institutions. In my judgment, there is nothing which would improve the standards of our state institutions, and assist in keeping up a competent staff as much as a psychopathic hospital.

Dr. Crummer touched upon another important subject—that of voluntary commitment. Every day we have calls from physicians asking for the privilege of bringing their mildly insane cases, or those which should be under observation to our state hospitals; the physician does not feel that these cases should be adjudged insane, and even if he did, would be unable to get the consent of the relatives to commit them to the state institutions. Consequently, if they are unable to be sent to private institutions, these cases remain at home without the proper treatment and supervision until it becomes absolutely necessary to have them committed to us. We should be able to accept patients on the recommendation of physicians, and keep them for a week or ten days' observation, and later, if they require institutional care and treatment, they could be legally committed.

I earnestly hope that an effort will be made by this body to bring about an act for the establishment of a psychopathic hospital, and for voluntary commitment of the insane, in the coming legislature.

J. L. Greene, Hot Springs, Ark.—Mr. President and Members of the Association: I am much gratified by an opportunity to say a word about it. I want to say first and foremost that things are better in Nebraska concerning the care of the State's wards than twenty-five years ago, so that is hopeful.

It is twenty-seven years since I first took up work in one of the hospitals for the insane. There was no need for three hospitals. The numbers of the patients did not require it. But the north Platte and south Platte both had to have a hospital. So after the one at Norfolk was created, it was found better to make one further west. So they made one and called it the "Asylum for the Incurable Insane." God forbid the name! I suggested an amendment of the title; that they should put beneath: "Who enters here leaves hope behind!"

I am heartily and wholly in accord with all that has been said about further betterment. The first thing to do would be to eliminate the word "insane" from the title of the hospital. That takes away considerable of the odium. After that it must not be expected the establishment of a psychopathic hospital will mean it can ever receive and treat and classify all of the patients who are committed. But it would be the center of the scientific activity; and if there could once be established in the minds of the body politic of Nebraska that the Superintendent of the Hospital for the Insane is not a thing to be considered a political appointment, or to be made in payment of a political debt, much would be gained. The position should be made so attractive that young men, after having graduated from the Medical Department of the University, and having had opportunity to have training at the State Psychopathic Hospital located here, would voluntarily select State service. They should be sufficiently well paid to stay there in assurance and comfort, with a salary sufficient to put by something, and a pension to come in the future as an appreciation of forty years of service. Out of that type of thing, a psychopathic hospital located at the State University, under the direction of a man who could take into his purvey all the things Dr. Young noted—that an appointment must be preceded by residence and training in the psychopathic hospital of the State psychopathic hospital—there would be a unity of opinion that a case of dementia precox would be dementia precox; that a case of senile dementia would indeed be senile dementia; and every one in charge of or responsible for treatment would be able instantly to recognize the curable types, that there might be applied the curable remedies, for what is to be done to restore one mentally sick must be done quickly if it is to be effective at all.

The present method of commitment makes no end of delay. Once at Norfolk I had introduced in the house and senate a bill to provide that the superintendent of each hospital for the insane might have a corps of paid and trained attendants who could immediately proceed to any county to take charge of and bring quietly those committed. The senate passed it, and the house amended it. Since it must have concurrence, the sheriff's lobby beat me there. For the pitiful fees paid them in mileage, it put handcuffs on the inoffensive old grandmother and brought her to the hospital, whereas any young woman might have put her hand on her shoulder and said, "Grandmother, let's go," and she would have followed.

It is very nice for this bunch of physicians to come here and talk, but don't forget this: You put in one day at it. The politician puts in 365 days. Unless you get busy and become actively and energetically and insistently and dominantly a part of the machinery of government that is strong enough to say, "Thou shalt not," you will never get by. I advise you to join a dominant party, whatever it may be, so that the physician may have an influence to make the legislation better.

Dr. Fast closing: I do not know that there is anything further to add. I wish to thank Dr. Greene and others for their generous discussion of the paper and wish to say that if we have done nothing more than to call the attention of the doctors of the state to the fact that a few of these old folks sent to the Hospitals for the Insane should be kept at home and if my paper will serve this purpose we will feel that our efforts have not been in vain.

Tuberculosis in Children, A Family Disease.*

Newell Jones, M. D., Omaha.

A series of incidents happening in close succession were what started the writer on the investigation which has led to a very firm belief in the title of this paper. While not of scientific interest, these happenings may be of practical interest to those present.

1st. Was called in consultation to see a child about three, with what the attending physician had diagnosed as meningitis following the child falling on a knife which had entered the orbit. It had been impossible to tell how far the knife had entered, as it had been removed by an older child before any adult arrived. The next morning the child had a slight convulsion, had vomited, the neck was stiff, and all reflexes were somewhat exaggerated. The whole picture became gradually worse for the next twenty-four hours when the writer was asked to see the case. There was no question of meningitis, but just what was the type? A lumbar puncture showed a clear fluid under pressure, with a high lymphocyte count, no organisms, but faintly reducing Fehling's solution. While we did not find T. B. in the fluid, there cannot be any doubt as to this being a tuberculous meningitis, as the child went down quite rapidly and made an exodus in a few days without any change in findings in the cerebro-spinal fluid. We told the family it was tuberculous and had probably been contracted from some other member of the family, but they did not believe this possible until later two other members of the family were found to have the disease.

Second. Infant of eight or nine months with a tuberculous adenitis and otitis, but without history of a contact. Father not strong, but no indication of tuberculosis. Mother seemingly in excellent health. On our insistance, the mother saw her physician and was found to have a beginning cavity on the right side and numerous bacilli in the sputum. Have since understood that the father has the disease.

Third. Wife of a physician had an attack of pleurisy during the time her daughter was having pertussis. Little was thought of it at first, but when it did not clear fairly promptly, a more complete examination convinced the family that it was a tuberculous affair. The child's cough was rather persistent and X-ray revealed enlarged tracheobronchial glands and a von Pirquet was actively positive. A younger child also has a positive skin reaction. The father is apparently clear.

These three cases coming in quick succession caused us to try to follow up several of the children in the Creighton College Dispensary, one or both of whose parents were under the care of Dr. Detwiler in the tuberculosis clinic. This was started at such a short time before our entering foreign service with the Children's Bureau of the A. R. C., that we were unable to come to any conclusion.

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*Read at the Elkhorn Valley Medical Society, Norfolk, Neb., July 8, 1920.

A rare opportunity while abroad was afforded us to carry on some more of this work, as we had many complete families of children with mothers under our care and with good opportunity to study them in every way, except X-ray examination. Our adult examinations were made by men connected with the Tuberculosis Bureau of the A. R. C.

Since returning home in the last year, we have followed up several more of the dispensary cases, and also a number of private cases and while less in number, they correspond very closely with our foreign series.

I know many of you will say that tuberculosis is so universal that of course, nearly all have it, but we are diagnosing as tuberculosis only those cases which to us have signs of some activity, or which may be classed as tuberculous disease. As far as possible, our work is checked with the X-ray. We have not made as many sputum examinations as we might, as in our experience it has been uncommon to find the bacillus in the early cases and when found, to us means a well advanced condition with an unfavorable outlook. We realize this statement does not agree with some text books.

Early chest tuberculosis in childhood is a glandular disease in contra distinction to the adult in which it is a pulmonary disease.

Let us consider the symptoms on which we make a diagnosis in chronic cases.

1. History. A careful history is, we believe, the most important symptom. Points in the history which should make us become suspicious:

(a) Cough prolonged an unusual time after measles, pertussis and other acute respiratory infections.

(b) A metallic cough, almost paroxysmal, and making one suspicious of pertussis (this may be either in a child who has or has not had pertussis, but especially under three years).

(c) Poor appetite with digestive symptoms, but no evidence of fat indigestion.

(d) Child tires easily, and becoming more irritable than normal.

(e) Unaccountable pyrexia, usually only a degree or two.

(f) Bad teeth and high strung, irritable child.

(g) Lack of gain in weight and strength, or loss of these on very slight provocation.

(h) Repeated colds especially if these take the form of a cough which tends to persist after the acute symptoms have disappeared.

2. Low fever, ninety-nine to one hundred plus, sometime during the day, but usually in the late afternoon or evening.
3. Pulse small and irritable.
4. Child usually below weight.
5. Chest development, especially above and below clavicle and above scapula, not good.
6. Abnormal rigidity of intrascapular muscles.
7. Inspiratory lag.
8. D'Espines sign.
9. Rales posteriorly in most cases in the upper portion of lower lobe.
10. Positive tuberculin reaction. (We are using mostly intradermal).
11. X-ray findings showing a cloudy mediastinum, broadened hilus shadow or pleural adhesions.
12. Bacilli in sputum.
13. Exclusion of other conditions.

Diagnosis must be made more by elimination than by construction.

You will notice we have made no mention of areas of dullness on percussion as this has helped us very little, and when present either means a very acute or advanced condition.

Having eliminated everything else as far as possible and finding sufficient of our symptoms positive, we have no hesitancy in making a diagnosis of tuberculosis, and to tell our families.

Now to get back to the results of our work.

In the cases where it has been possible to have both parents of a tuberculous child examined, I can't find that we have ever had a case where both were free. Of course in the majority of our cases, this has been impossible.

It has been our experience that a larger percentage of mothers than fathers have been infected. This may be because our opportunities with mothers have been much greater than with fathers.

Seldom has more than one child in an infected family escaped the infection up to ten years of age.

When two or more members of a household are free the rest are free.

In infected households from eighty to eighty-five per cent are infected while the figures are practically reversed in the non-infected households. It is impossible at this time, for various reasons, to give absolute figures.

Conclusions.

We do not believe that measles, pertussis and other acute respiratory diseases cause a lessened resistance to the tubercle bacillus, but that they light up an infection already present, but probably being held in check.

To us these findings do not mean that the disease is inherited or that the family resistance is lowered, but that it is a direct contagion, and that any child will contract the disease if the dose of infecting organisms is large enough.

The problem of handling the tuberculous is not a problem of the individual, but of the household, and beyond that, of course, the whole community.

We must beg your forbearance for having made this as personal as we have, but this has been written, not with an idea of rehashing the literature, but of giving you an idea of the problem as it looks to us from our own observations.

The Antrum as the Main Source of Nasal Catarrh.*

H. B. Lemere, M. D., Omaha.

Chronic nasal catarrh is a disease which is accepted not only by the laity, but by many in the medical profession as a condition which is incurable, and there is an inclination to look upon it as a disagreeable symptom but not as a serious menace to health. I wish to take exception to this view. If a careful study is made of every case of nasal catarrh and appropriate surgical treatment employed, there are few cases of infection of the nose which cannot be cured. I also believe nasal catarrh to be a focal infection, and as such should be considered in the same class as bad teeth and infected tonsils and productive of serious local and general pathological conditions distant from the seat of the primary focus.

It is interesting to note the modern treatment of infected foci compared with that of times not far remote. A decade ago before the perfection of the X-ray, teeth were allowed to remain in spite of all headaches, rheumatism, cardio-vascular affections, etc. Now the focus of infection is recognized, and with its removal results are obtained which ten years ago would have been considered miraculous. Tonsils were partly sliced off if they obstructed respiration or were the seat of frequent attacks of tonsilitis, but the low-grade infected tonsil which often causes no local symptoms but which is prolific in general infections, was left unrecognized as having any relation to these secondary troubles. It is now discovered and completely removed.

Chronic nasal catarrh, however, is liable to pass unobserved in our search for focal infection unless careful clinical and X-ray examination of the nasal sinuses is made. The X-ray was absolutely necessary to uncover

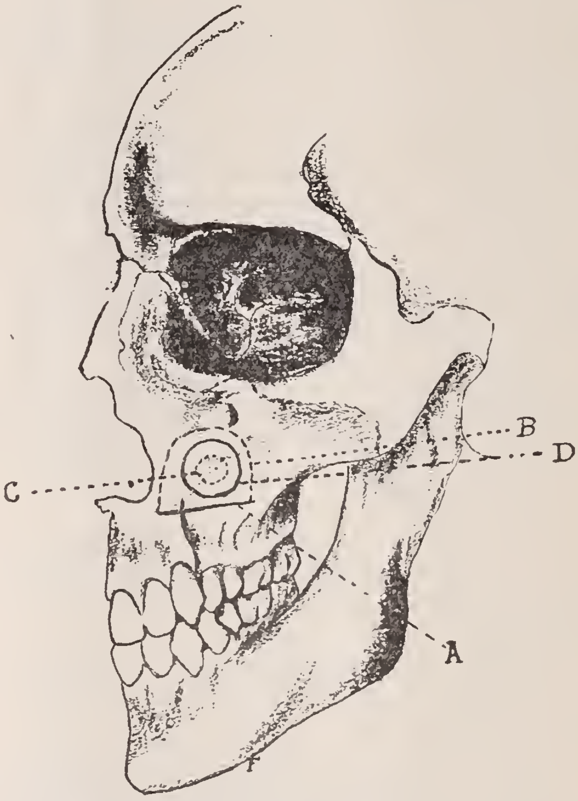

FIGURE I.

A. Line of gum and periosteal incision.
B. Line representing about the area of periosteum to be elevated.
C. Line showing size and location of opening to be made by small drill.
D. Line showing size and location of opening to be made by larger drill.

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*Read before Nebraska State Medical Association meeting, May 24-26, 1920.

maxillary osteitis from apical infections and pyorrhoea, and the X-ray is just as necessary to discover the source of chronic nasal catarrh. I have been more and more convinced of this especially in the past three years. During this time, I have been studying X-ray plates of all cases of chronic nasal catarrh, in which either the disease itself was of sufficient seriousness to warrant it, or in which the signs of focal infection demanded a thorough investigation of all possible sources of trouble. During this time I have made it a routine in such cases to study the X-ray pictures of each case personally, comparing the densities of the plates with my intra-nasal examination and clinical findings. After pursuing this method for some time, I found it was possible always to locate the sources of a profuse mucous catarrh or of a foul nasal discharge, or even of a low grade silent infection, which for want of a better term I have called, "latent infection." I also found that by far the greater percentage of these cases showed the antrum to be the main source of infection and not the ethmoid, to which, previous to my routine X-ray work, I had given the credit of being the chief offender. As soon as I found the prevailing antrum infection to be the main cause of chronic nasal catarrh, I sought a remedy for the condition. Nasal washes were ineffectual, as the antrum in the most favorable cases, could of course never be freely washed out by sprays or douches. Intranasal operations on the antrum were often severely painful as was also the after treatment. Opening the anterior wall and packing as in the Caldwell-Luc operation meant a long period of convalescence, there was no through and through irrigation, and the results were unsatisfactory. Through and through flushing continually until sepsis is overcome is a good surgical axiom, amply verified by the Carrel-Dakin method of treating wounds. The antrum probably lends itself to a through and through flushing better than any other part of the body. I therefore planned a technique for through and through drainage which briefly is as follows:

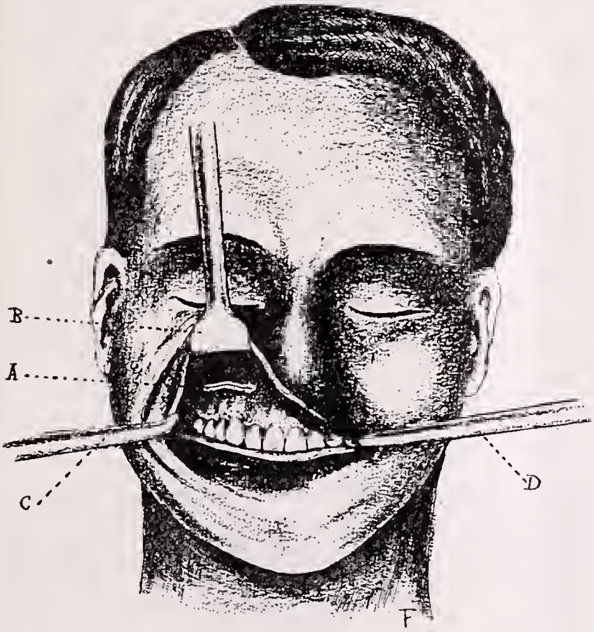


FIGURE II.

A. Mucous membrane incision.
B. Retractor.
C. Suction tube to take up hemorrhage.
D. Ether tube to maintain anaesthesia.

An opening is made under the lip, and above the teeth into the anterior wall without injuring any dental structure, and through this a free opening is made into the inferior meatus of the nose. The oral opening is maintained by a rubber tube which remains in place for 24 hours. It is possible to flush a stream of water from the oral

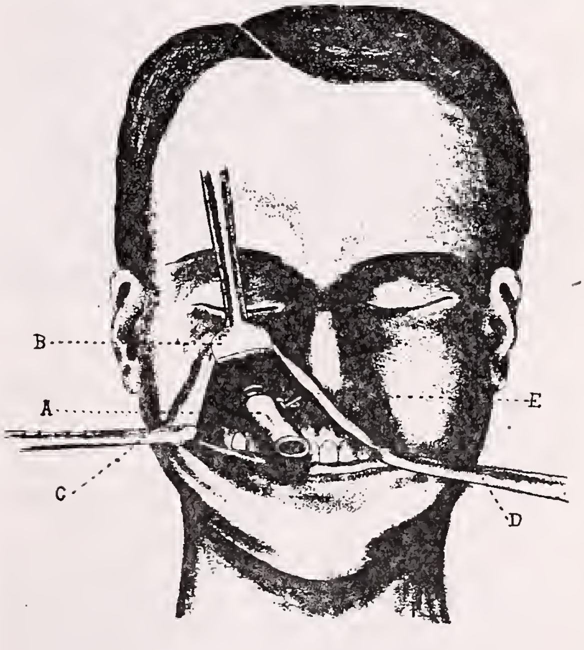


FIGURE III.

Opening has been made in the anterior wall as located in Fig. I. Opening has also been made on inner wall of antrum beneath the middle turbinate. The final step of the operation is the placing of the tube which is tied around by a suture in the gum and is removed in twenty-four hours.

A. Tube. Portion reaching into antrum has perforations. This tube may be cut shorter if desired.
B. Retractor.
C. Suction tube to take up hemorrhage.
D. Ether tube to maintain anaesthesia.
E. Cat gut suture uniting angle of incision and surrounding tube.

opening through the antrum into the nose without pain within twelve hours of the operation and frequent through and through flushing can be continued for a week or ten days. By this time the oral opening is closed and the condition of the return flow through the nose clear. I have given my technique in this operation elsewhere and have only room thus briefly to state the principles underlying it. I have carried out this technique in 75 cases, and find it most satisfactory both in the short period required for convalescence and in its permanent results.

The following are some interesting quotations from text books covering over two decades showing the opinions at various periods in regard to catarrh.

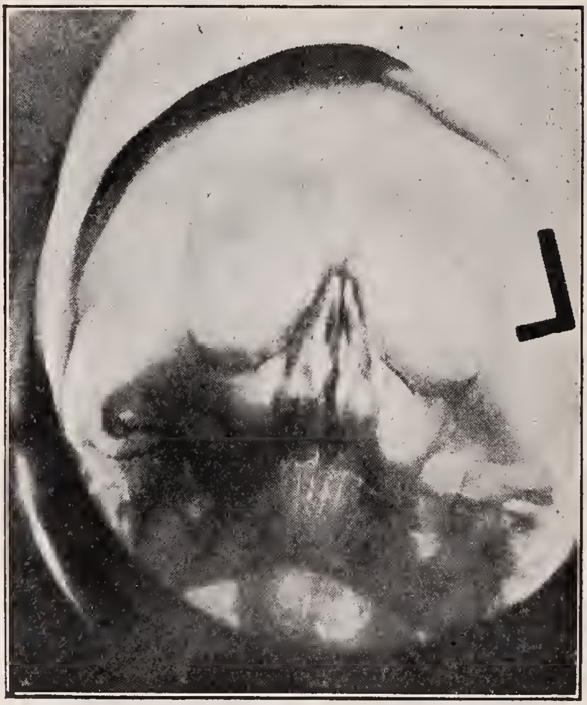
Frankel[1] (1876). States chronic nasal catarrh is often due to scrofula and syphilis. That it may develop from acute rhinitis and that blennorrhoea may terminate in hyperplastic or atrophic rhinitis and adds that we do not have an opportunity for treating chronic rhinitis until the period for its rapid cure is long past.

Bosworth[2] (1889). Gives the treatment in detail, local and operative treatment to reduce and excise hypertrophies and to use cleansing washes for ozoena. He describes purulent rhinitis in children in terms which make us think at once of antrum infection, but he does not mention the accessory sinuses in this connection.

Grayson[3] (1906). Gives a splendid chapter on the three forms of chronic catarrh, with a wealth of information in detail under general, local, and operative treatment. This chapter indicates the most advanced thought of that period, but it is evident that the profession was then far from realizing the dependence of chronic purulent catarrh on sinus involvement.

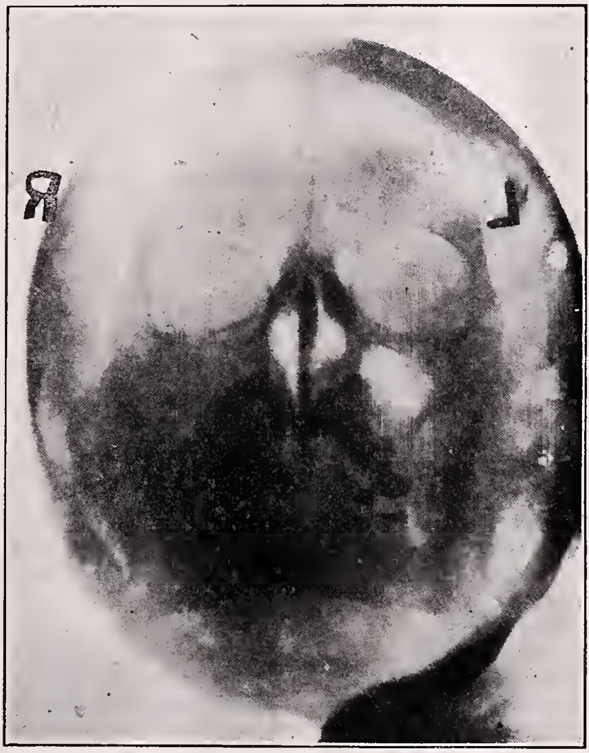
Ballenger[4] (1914). States that the treatment of hyperplastic rhinitis should have two chief objects (a) the removal of the obstructive lesion whether it be deviation of the septum or hypertrophy of the middle nasal concha and the cure of sinusitis.

Coffin[5] (1917) under chronic rhinitis and hyperplastic rhinitis advises removal of nasal deformities and the use of an appropriate nasal toilet, and under atrophic diseases states if the disease is due to sinus disease this should be treated.



Phillips[6] in his last edition 1919 says the diagnosis of chronic purulent rhinitis is based upon a painstaking examination of the anterior nasal cavities in order to exclude purulent sinusitis, foreign bodies, tuberculous and syphilitic affections as a cause of the rhinorrhoea.

This last opinion represents fairly well the attitude of modern rhinologists, and the feeling is growing that chronic nasal catarrh is essentially a disease of the nasal sinuses, and that its cure depends on adequate drainage of the affected cavities. My experience is, that of the sinuses, the antrum is by far the most frequently affected and that the most effectual treatment consists of surgical procedures providing a through and through irrigation and drainage.



The quotations are taken from standard text books of different periods. Of course they do not represent the present opinion of the authorities named. They are used for the purpose of showing the most advanced opinion of the times mentioned.

The following are typical cases of chronic nasal catarrh dependent on chronic maxillary sinusitis:

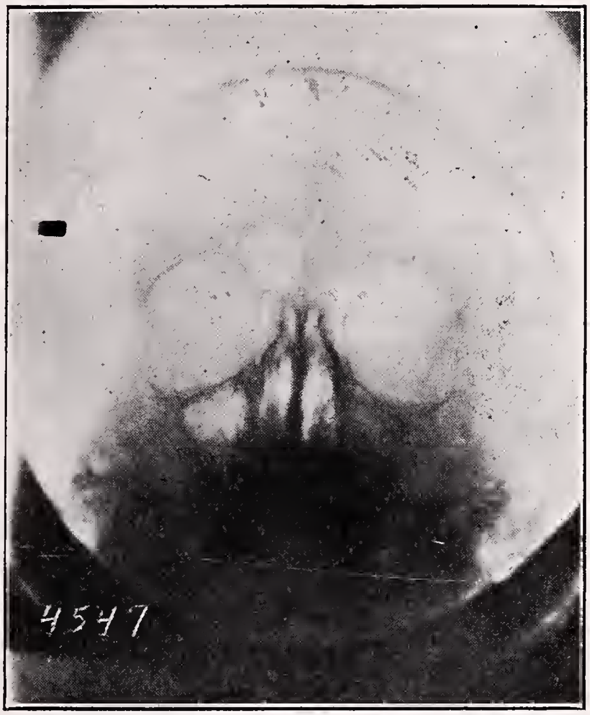
Mr. T. H. Mc.—57. Has had catarrh for twenty years. Has had right antrum treated and washed out and polyps removed at different times. Has very profuse purulent discharge, especially from right side.

Examination: Nose. Free pus in right middle meatus. No pus on left side. No pain or neuralgia, no tenderness over antrum. X-ray shows right antrum affected. Jan. 12th, 1918 right antrum was opened and drained and irrigated according to author's technique. Nose free from pus in two weeks. Patient seen two years later stated his profuse catarrh had entirely disappeared.

Mr. H. G. H.—20. Was first seen in 1912 when he complained of headaches and post nasal discharge. Patient has been under observation and treatment for the past eight years, during which time he has had a profuse nasal discharge with some odor, but no pain or symptoms pointing to the antra. Nov. 15th, 1919, an X-ray was taken and showed both antra cloudy. Jan. 12th, 1920 both antra opened, drained, and irrigated according to the author's technique. March 15th patient states his catarrh is entirely well and that he feels better than he has ever felt in his life. There is no pus present in his nose and throat and no odor on his breath.

Mrs. E. H. M.—35. Was first seen July 7th, 1919, and gave the following history. Has had severe headaches for the past year and a half, with pain in the eyes and at the back of the neck, no pain or any symptoms referable to the antrum. She thought her headaches were due to her stomach and was continually taking medicine. She has been troubled for over a year with severe itching on her arms and legs. She had the flu the last week in December 1918.

Examination: Nose. Turbinates swollen. Muco pus from both middle fossae. No pain on pressure over antrum.



Pharynx: Streaks of muco pus falling from nose.

Tonsils: Clear.

Teeth: Good.

There is some odor from the nose. X-ray shows both antra cloudy other sinuses clear.

July 12, 1919 both antra were opened and through and through drainage obtained according to author's technique. There was a bad odor on opening the antra but no pus under pressure. Irrigation instituted. Recovery uneventful after two weeks' through and through washing. Eight months later she reports that headaches, stomach trouble, the itching, and the foul smelling catarrh have entirely disappeared. She is strong, well, and very happy over her changed condition.

Nov. 28, 1919. Raymond R.—14. Has had nasal obstruction with profuse catarrh and headaches for several years. Had tonsils and adenoids removed two years ago without much relief. Nose shows white mucus in each middle meatus. One month's treatment under correct hygiene, nasal washes, and suction produced some improvement, but the boy continued anemic and was far from being in robust health. X-ray showed right antrum opaque and left antrum cloudy. Jan. 9th, 1920. Both antra operated on according to the author's technique, and through and through drainage carried on. Recovery was uneventful. Three months later the boy reported that he was entirely free from his catarrh for the first time in his remembrance. His breathing was free and he was in perfect health. This case is one in which disapointment was felt over the result of the tonsil and adenoid operation. The tonsil and adenoid operation was undoubtedly indicated, but the patient failed to get well until the antrum infection was discovered and cleared up.

Conclusions:

1. Chronic nasal catarrh with profuse discharge almost invariably means antrum involvement.

2. This condition calls for through and through drainage of the antrum with constant cleaning until healed.

References:

(1) Encyclopedia of the Practice of Medicine. Wm. Wood, 1876, Vol. IV Page 136.

(2) A Treatise on the Diseases of the Nose and Throat. Bosworth 1889.

(3) Diseases of the Ear, Nose and Throat. Grayson 1906, Page 82.

(4) Diseases of the Nose, Throat and Ear. Ballenger 1914.

(5) A Reference Handbook of the Medical Science. Vol. VII. Wm. Wood & Co. 1917, Page 568.

(6) Phillips Diseases of the Ear, Nose and Throat. Fifth Edition, 1919, Page 516.

(7) Trans. Academy of Opthalmology and Oto Laryngology, 1919.

(8) Coffin, Trans Amer. Laryn. Assn., 1918, Page 226.

Discussion

W. D. Shields, M. D., Holdredge: I wish to commend this paper. I have often wondered why there have been so many cases of these offensive breaths with catarrh, and have thought the trouble might be in the antrum, but have never seen it proven and demonstrated as this morning.

As to these cases of polypi and ozena, once in a while the infection comes from the ethmoid or sphenoid to the antrum, but in all of them there must be some focal infection that can be reached; and while I have classified these in my own mind as "curable," "incurable," and "cases that can be helped," I believe there is a new way opened up by the doctor's paper and demonstration, and that we can do a great deal more for this class of cases, and I am very glad to have heard this paper by Dr. Lemere.

E. L. Vernon, M. D., Tama, Iowa—I would like to ask how this treatment of the through and through method compares with the radical method with caustic treatment?

Charles H. Fox, M. D., Kearney—I am very glad to hear the doctor's paper. It was of particular interest to those of us who do some of this work. I am glad he has developed a method which might be called simple that seems to yield some results.

In treating these cases by the intranasal method, I never got results excepting in acute cases where I have washed them once or twice, and they got well. The chronic cases did not improve, and I came to the conclusion I would never try any more chronic cases unless I did a radical operation.

J. M. Banister, M. D., Omaha—I did not have an opportunity of hearing all of the doctor's paper, but from my association with him, I feel I know the contents of it quite well.

I wish to say that anyone who makes use of the doctor's suggestion is going to feel repaid for his pains.

Not so very long ago I abandoned intranasal operation on the maxillary antrum. I am now an ardent advocate of the other method, because I get results that formerly were impossible of attainment.

Another thing is this: When we as diagnosticians expect by passing a trocar and canula to get yellow, flowing pus in these cases, we are doomed to disappointment. You might find it in one or two cases, but you will have a list of cases in which there will be no pus. When you open the antrum you find a glairy, tenacious, foul-smelling mucus. Therefore I think we should abandon our attempts to prove or disprove the presence of antrum infection through using a trocar.

I have watched Dr. Lemere's work ever since he began doing it, and I do the same operation, and have never seen anything but the most beautiful results. I will mention a case that struck me most forcibly very lately. A man came under my charge, who two years ago had had an antrum involvement on the left side. It had been lost sight of. He had a marked involvement of the optic nerve, the nerve head manifesting a very definite papillitis. His vision was going down at a rapid rate. Attention had been directed to his eye exclusively. I began to look for the focus of infection, and according to Dr. Lemere's technique, I had a thorough X-ray examination of the sinuses made. Cloudiness of both antra was found. All other tests were negative. He showed a negative Wassermann reaction. His teeth were negative. There wasn't another focus of infection. I did a double antrum operation, and today he has 20-15 vision in one eye, and 20-20 in the diseased eye. All of the swelling of the optic nerve has gone. He was going blind fast, and the focus of infection was in the antrum. I might have put trocars in indefinitely and never have gotten a drop of pus.

I cannot speak too highly of this method and technique and feel that Dr. Lemere deserves the gratitude of the profession in bringing this method forward. It finds the source of infection and removes it. I think its great value is the constant and efficient drainage secured. No doubt the doctor has told you that from every half hour to an hour the sinuses are washed out. The mucus that accumulates is thus removed at frequent intervals.

S. E. Cook, M. D., Lincoln—I was much gratified to have had the opportunity to hear this able paper, although in its application to the condition or conditions commonly grouped under the indefinite name of chronic nasal catarrh I am unable to determine just how much ground the reader essays to cover. Does he claim that all classes of nasal catarrh are amenable to his treatment, or would he limit his claim to certain definite conditions? For instance can Dr. Lemere cure ozena by his method? If he can accomplish this he has surely given us something wonderful, and something of immense benefit to the sufferers from this foul complaint. Even short of that however he has given us something of great value. I am sorry he shortened his paper and failed to enlighten us in regard to his technique.

J. J. Hompes, M. D., Lincoln—I can subscribe to everything that Doctor Lemere has said excepting his operative technique.

The diagnosis of maxillary sinus disease can usually be made by the Roentgenogram but the extent and pathology of the disease cannot be so determined.

It is impossible to state from the X-ray plate whether one is dealing with an old chronic sinus that should have radical treatment at the onset; or an acute condition that will recover rapidly if good ventilation and drainage are established. It seems to me that if it becomes necessary to make an opening in the anterior wall of the sinus the technique described by Dr. Lemere would leave a great deal of the sinus unexplored. In old chronic cases where the normal mucous membrane has been replaced by granulation polyps often resting on a more or less diseased bony wall the doctor's method could not be expected to give the excellent results one gets by the Denker or Caldwell-Luc operations.

The matter of lavage through the anterior wall as opposed to or in place of through the internal lateral wall has no physical or anatomical basis for increasing its efficiency one way or the other.

Dr. Banister—The points raised in Dr. Hompes' remarks are thoroughly covered by Dr. Lemere's operation. An opening is made in the anterior wall of the antrum sufficiently large to permit of examination of the interior of this sinus both by inspection and by instrumentation. This operation provides also for the removal of the external wall of the inferior meatus of the nose to a degree which will provide a free and permanent communication between the antrum and the nasal cavity. Thorough permanent drainage is thus secured.

Dr. Lemere—I am very much gratified at the interest shown by the discussion of this paper.

I am rather disappointed that my friend, Dr. Hompes, has not read the explanation of the operation given in the Transactions of the Academy of Opthalmology and Oto-Laryngology.[7] A paper like this could not discuss in detail the operative technique and come within the time limits, so I had to abbreviate. If Dr. Hompes will take the trouble to peruse the article as it appears in last year's Transactions, he will see there is ample opening made for the inspection of the cavity, and still another wide opening made into the nose, and by means of this, through and through drainage is carried on by a large stream of water, through a three-eighth's inch tube, into the antrum, thoroughly flushing it out.

Of course if a bad tooth is there it must be removed and if there is alveolar necrosis it must also be removed. In those cases in which there are polypi and granulations—and this will probably answer the questions of Dr. Cook—I have been surprised to find them clear up under this conservative treatment. No curettage of the membrane of the antrum is done except in the most gentle manner with the idea of preserving the mucous membrane of the antrum, which should not be destroyed. The polyps are removed.

I have operated on seventy-five cases according to this method and have yet to see a case that failed to get well. This is surely an argument for through and through washing. In a great many of these cases the bone has undergone marked changes so that the drill will go completely through the antrum without any pressure at all. Yet they do equally as well as those in which the bone seems perfect. I am having specimens examined by the University of Nebraska and in all my cases I am trying to obtain specimens for microscopic examination. Many cases show different forms of osteitis. They all seem to get well, however, when you assist nature by opening the antrum, restoring the membrane, and when you provide continuous drainage into the nose as long as necessary.

I think in answer to Dr. Cook, I would say, that all forms of chronic nasal catarrh can generally be traced to a latent or active antrum involvement, especially in regard to ozena the results have been extremely pleasing. I have found not only disappearance of the scabs and odor, but quite a marked effort of the shrunken membrane of the turbinates to return to normal. Dr. Coffin[8], however, has preceded me in reporting the cure of ozena by draining the antrum, though as far as I know, he does not use my technique of through and through washing.

In the case reported by Dr. Banister which had optic neuritis, there was nothing in the patient's history as given at first to us, nor anything in his local symptoms to lead us to suspect the antrum. It would have remained undiscovered except for our routine X-ray, and clinical examination of the sinuses.

In answer to Dr. Vernon, I would say, that the reaction from this operation is very mild, and entirely at variance with the Caldwell-Luc operation in which the reaction is very severe. The through and through drainage brings about healing much quicker than after curetting away the mucous membrane and using caustics. In addition, it gives a normally functioning mucous membrane lining the antrum instead of scar tissue and no mutilation of the turbinates.

Cataract; Intracapsular Extraction—A Clinical Case.*

W. D. Shields, M. D., Holdrege.

In bringing up this subject at this time, it is for the purpose of eliciting a discussion on some points as to results obtained in this operation. As to the use of atropine in the eye after the operation, I think it is detrimental unless distinctly indicated as determined by the surgeon himself. First it increases the tension and second it permits too much light in the eye, neither of which is easily overcome. It is my opinion that both these factors contribute to the end; namely that so many of these cases operated by the intracapsular method have good vision for a time after the operation—two, three or four years, then the sight gradually begins to fail.

Col. Smith's operation is admittedly good and is liked by all who know it best and have had most experience in it, because of its simplicity; simpler operation, less traumatism, more rapid healing, and in properly selected cases, fully as good results, with the proper technic and competent assistance.

By looking up the literature it is found that de Schweinitz, Weeks and Knapp are growing more in favor of this operation than formerly. They now give their own operation for this method.

Accidents in operating either by the intra- or extra-capsular method may and do occur. The patient may suddenly move the eye upward when using the cystotome making a fulcrum of the corneal flap and pressing the lens in the eye. This I have seen happen. The most common and serious accident in the intracapsular method is the loss of vitreous. Of course there are many other accidents that may happen which may be anticipated beforehand by the surgeon and which he should be prepared to meet.

Mr. L. M., aged 74, referred by Dr. W. F. Dugan, Campbell, Nebraska, operated upon in October, 1917, intracapsular method, for an over-ripe cataract in the left eye, with the combined operation. He had an uneventful recovery and at the end of six weeks after operation was fitted with a strong lens by which he was able to see 20/30. His sight began to fail, however, at the end of about three years, when I lost track of him. There was a slight loss of vitreous in this case to which I attribute the gradual loss of vision.

Mr. P., aged 73, referred by Dr. Hal C. Smith, Franklin, Neb., was operated upon June 7th, 1920, removing the cataract in the capsule. This patient is plethoric and had a blood pressure of 179, systolic, otherwise in good condition. Dr. Smith reduced the pressure by treatment and diet to 156 before the operation. After the usual preparation and sterilization of the field, we used a 4% solution of cocaine and injected two drops under the bulbar conjunctiva. We have only used a little atropine and then when distinctly indicated, allowing contraction and dilation of the pupil to take place. There was no loss of vitreous nor other accident. When last seen the eye seemed to be in good condition but do not know what vision we shall get as the patient has not been fitted with a glass.*

*(July 18, with +10.00s = +2.00c axis 10 patient sees 20/70.)

Perforation of Cornea From a Broken Lens.

My only excuse for reporting the following case is simply to get it on record.

Mrs. F. M. was brought to my office October 3rd, 1917, with a perforation of the cornea of the left eye in the lower inner quadrant. She stated that while peeling potatoes in a pan of hot water, which she thought was not steaming, the rimmed lens broke spontaneously, one piece of which pentrated the cornea. There was a prolapse of the iris. After cleansing the eye by the usual method, the prolapsed iris was snipped off and the stump pushed in with a sterile probe, after which it was dressed daily for a week with a complete recovering of sight. The eye was as good as the other excepting it was sensitive to light.

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*Read before Sioux Valley Eye and Ear Academy, Omaha, July 14, 1920.

Organization of State and Provincial Clinical Sections of the Clinical Congress of the American College of Surgeons.

For the advancement of the purposes for which the American College of Surgeons was founded, its Board of Regents has authorized the organization of clinical sections in each of the states of the United States and in the provinces of Canada.

Each of these sections shall consist of the Fellows of the American College of Surgeons resident within the given state or province, and shall be known as "The (name of state or province) Clinical Section of the American College of Surgeons"; it shall vest the general management of all state matters in a body of State Representatives, (one representative for each congressional district, and two senatorial representatives at large, each to be elected by the Fellows of the state for a term of two years, one-half of the number to be elected each year.) This body corresponds in the state to the Board of Governors of the College. Similar organizations will be effected in the provinces of Canada.

At the annual meeting of the state representatives an executive committee of three to five fellows shall be elected from among their number. The executive committee corresponds to the Board of Regents of the College and is the supreme executive body within the state. Its duties shall be namely:

1.—To create, appoint, and direct all committees;

2.—To call all meetings of the section not already provided for.

3.—To conduct annual state clinical meetings.

4.—To transact all detail business devolving upon the state representatives in carrying out the object of the organization.

5.—To transact all business not already provided for.

6.—To direct the keeping of the books and accounts of the section, examine them from time to time, and submit them to the central office for approval.

7.—To keep a record of state proceedings, submit them to the state representatives for approval, and to the central office.

Annual Sessions

Each section shall hold an annual session which may include:

1.—Surgical and diagnostic clinics and clinical demonstrations to be conducted in the mornings, by Fellows of the College and their associates.

2.—Afternoon meetings for the laity, to be addressed by invited laymen and surgeons.

3.—Scientific and literary papers relative to the art and science of surgery, to be presented at evening meetings by prominent local surgeons and by invited guests.

4.—Annual meetings of the state section, of the state representatives, and of the executive committee.

For the annual session the following special committees are necessary:

A committee on invitations to determine the list of invited guests; a committee on arrangements, to arrange for clinics at the different hospitals, to arrange for hotel accommodations for all guests, and to select a hotel for headquarters. A publicity committee appointed by the executive committee, to give out such reports of clinical proceedings as may go to the public press,—all having been carefully censored so that they conform to ethical standards. Each hospital where clinics are held must appoint a committee who are responsible for all services necessary in the conduct of the Clinics.

A careful daily bulletin of the clinics to be held, should be kept at the headquarters of the meeting.

Finances:

In order that there may be no extra expense to the members of the college in the city where the annual session is held, allowances not exceeding $3.00 per year for each member of the college in the state, will be made by the central office; they will co-operate with the executive committee in every way necessary. There will be no individual registration fee.

The general interest taken in the formation of these clinical sections is evidenced by the fact that the organization has already been effected in thirty-two states, the last of which is our own state, where the committees are as follows:

Executive Committee—Chairman, John E. Summers, Omaha; Secretary, Daniel T. Quigley, Omaha; Counselor, J. Stanley Welch, Lincoln.

Representatives, Term expiring 1920—Senatorial, Daniel T. Quigley, Omaha; Second District, Palmer Findley, Omaha; Fourth District, Harry M. Hepperlen, Beatrice; Sixth District, Francis A. Long, Madison.

Term expiring 1921—Senatorial, John P. Lord, Omaha; First District, David Clark Hilton, Lincoln; Third District, C. A. Allenburger, Columbus; Fifth District, B. B. Davis, Omaha.

Four western states have taken the lead in holding the first state meetings: Montana, Idaho, Oregon and Washington held meetings early in September.

The Hospitals and Prohibition.

Few persons on first thought would include the hospitals among the beneficiaries of Prohibition. It is true nevertheless that in a very marked way these institutions are benefited by the saloon's overthrow. The hospitals are benefited by large decrease in the number of alcoholic patients, fewer charity patients and a better class of patients. The alcoholic ward of the immense Philadelphia General Hospital has been practically depopulated by Prohibition. In 1917, 1,470 alcoholic cases were treated; in 1918, 1,184; in 1919 (after six months dry), 276. Prohibition has reduced the number of alcoholic cases treated in the hospitals of New York city from 70 to 90 per cent.

Prohibition has cut the calls for ambulance service. At Bellevue Hospital, an institution treating more alcoholics than any other in the city, the reduction in ambulance calls for "plain drunks" is significant. The calls were as follows:

January, 1919	136	January, 1920	21
February, 1919	92	February, 1920	10

The New York Hospital, having the largest ambulance service of any private institution in the city, had calls in alcoholic cases as follows:

January, 1919	53	January, 1920	28
February, 1919	47	February, 1920	14

There are also indirect benefits to the hospitals arising from Prohibition. Bellevue alone now has available attendants and equipment so that nearly 7,000 new patients can be cared for per year, on the basis of five and a half days per patient.

The same is true of practically every general hospital. Great as are the direct benefits of Prohibition, the indirect benefits promise to be even greater.

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Important To Our Members.

In recognition of authentic reports from England, Germany and Austria, supporting the derogatory tendency to professional efficiency by the medical profession working under State Health Insurance Laws, physicians in the United States should be informed on the provisions of that plan. No better arranged, logically argued and lucid presentation of the fallacious reasoning, utilized by the advocates of "Compulsory Health Insurance" in America has been published, than was placed before our members in the August issue of our Journal, written by . Fred R. Green, A. M., M. D., Secretary Council on Health and Public Instruction of the American Medical Association.

Our Journal has many requests from leaders in the propaganda of Health Insurance Laws asking the publication of adroitly worded arguments, positively affirming the beneficent benefits to the medical profession by the adoption of their plan. We therefore appeal to our members to read carefully and digest the arguments for and against as presented by the author above quoted.

The following press clipping from Vienna on the plight of the doctors working under State control of their service should awaken our interest in pending conditions.

> "Four thousand doctors of Vienna who have been treating patients under the auspices of sick benefit associations have gone on strike. They are refusing to make visits except for the regular fees of their private practice."

Doctor, reading of the article by Dr. Green will be time profitably utilized.

George Miller Sternberg.

(A Biography.)

A work has just appeared from the press of the American Medical Association, Chicago, which should be upon the shelves of every medical library, and in the possession of every patriotic American physician. This is the biography of the late Surgeon-General George Miller Sternberg, U. S. Army, written by his wife.

General Sternberg was the father of bacteriology in this country. In 1880 he discovered the germ of pneumonia, and was clearly entitled to priority in this regard, although, in accordance with the true American spirit of hero-worship for scientific observers in other lands, the name of a foreign investigator has been applied to this microorganism even by General Sternberg's own countrymen. This was a source of distress to this great American to the end of his life.

"He was the first in this country to show the organisms of malarial fever, cholera, and tuberculosis." In consequence of General Sternberg's immortal work in connection with yellow fever he placed the entire world under an everlasting debt of gratitude. Having had the disease himself, and having been an observer of the frightful ravages of this disease in our hemisphere, he earnestly devoted himself to investigating the pathology of the disease. During the period of his investigations observers would from time to time bring forward various micro-organisms, to which they would accord a causative agency in yellow fever. He would devote himself in such instances to a thorough investigation of the so-called specific germs, and by his great experience and bacteriological skill was able, in each instance, to prove their innocence as agents in the causation of the disease in question, thus benefiting scientific medicine, and humanity as well, by removing sources of error in the search after the specific cause of the disease.

At the beginning of the Spanish-American War the scientific world was in the same ignorance concerning the problem of yellow fever causation as in former times, although Sanarelli had just at this time introduced his bacillus icteroides as a much heralded specific micro-organism. Our troops had been sent to Cuba, and had promptly been attacked by yellow fever. General Sternberg was then Surgeon-General of the Army. He at once organized a board of officers of the Medical Department consisting of Reed, Carroll, Lazear and Agramonte, which board at his request was ordered to Cuba to investigate the disease, and determine the efficacy of the Sanarelli bacillus as the specific germ. This board promptly proved that the organism was identical with the bacillus of hog cholera, and stood in no definite relation with yellow fever. The board then by most heroic, self-sacrificing labors devoted itself to the investigation of the true causation of yellow fever, and proved that this disease is invariably transmitted by the bite of the stegomyia fasciata mosquito. In consequence of their discovery, which has immortalized American medicine, yellow fever epidemics in our own country, of which there were ninety-three recorded visitations, have become things of the past, and the construction of the Panama Canal has been rendered possible. As Americans we should remember General Sternberg's part in this great accomplishment.

During the Spanish-American War typhoid fever attacked one-fifth of the troops raised for our national defense. General Sternberg appointed a board for the investigation of this disease occurrence, consisting of Reed, Vaughan and Shakespeare. This board proved that the alarming spread of the disease in our camps of concentration was due to the fly, and to infection from contact with bedding and utensils harboring the bacillus typhosus. This brought the domestic fly into court as a criminal in disease propagation, which fact has been of inestimable advantage to preventive medicine, as suggesting the guilt of this insect in the spread of many other diseases.

When General Sternberg became Surgeon-General of the Army he immediately took steps to place Army operative surgery on a higher plane, thus encouraging the developing of operators in the service, in consequence of whose efforts and results military surgery in this country was soon placed upon a high plane. It is only necessary to mention in this connection the adoption of the radical cure of inguinal hernia in all cases of rupture in the service as an official matter. The general order covering this advance was issued in 1895. In consequence of this policy hernia operating in this country was greatly exploited.

General Sternberg originated the Army Medical School, and established the Dental Corps, and Army Nurse Corps.

His influence was always exercised, during his tenure of office as Surgeon-General of the Army, in the direction of promoting scientific medicine, and encouraging young members of the Medical Corps to advance themselves in every branch of the profession.

For these reasons it is the opinion of this journal that the entire profession of medicine is indebted to General Sternberg, and that as American physicians the great body of medical men in our country should acquire this biography as a memorial of their great fellow countryman.

J. M. B.

The County Medical Society— Is It Really Worth While?

In presenting a subject of this character, it is not with the idea of promulgating something new or out of the ordinary, as should be the purpose of any paper or discussion at a meeting of this kind, but rather to call attention to known facts, hoping to incite action along a line that will result in reviving the interest in the County Medical Society to the benefit of the individual member and the profession as a whole. And may we be pardoned for saying, that anything that betters the medical profession renders a greater service to humanity and society in general, by operating through this, rather than any other trade, profession or calling.

Let us consider briefly the advantages the County Medical Society offers:

First—It identifies you and your business as being associated and linked with the best in your State, the same as your bank in the State Bankers Association, or your lumber dealer in the Lumber Dealers Association. And who will say these organizations have not operated to the mutual benefit and satisfaction of their members in the past.

Second—Being a member of the County Medical Society you automatically become a member of The Nebraska State Medical Association. Aside from being privileged to register and participate in the general sessions of the State meeting, the Medico-Legal

Defense provided is worth many times the cost of the County Society dues.

From the dues of five dollars per year, one dollar is apportioned to the Defense fund. At the close of last year we had over two thousand dollars in this fund after having successfully defended all cases coming to trial during the year. Fortunately, not every one of the eleven hundred members of the State Association is privileged (?) to draw on this fund, but no practicing physician or surgeon is proof against a malpractice suit and knows not the day nor the hour when he will find himself the defendant in some such action. This fund is available to carry his case to the court of last resort, if necessary, to vindicate him. Indemnifying companies organized for this purpose charge from three to five times as much for the same protection.

Third—For the past four years the Nebraska State Medical Association has owned and published The Nebraska State Medical Journal, which for the general practitioner, or any one not specializing, is one of the best medical journals published. So much for the bargains offered and all for five dollars.

While the foregoing sets forth the advantages from the dollars and cents standpoint, a greater reason remains for the County Medical Society that meets regularly with a definitely prepared program for each meeting. If two to four papers are presented, with the consequent discussion, every one is sure to carry home some ideas which will be of value. As no one derives as much from a carefully prepared paper as the writer, each member of the Society should be encouraged to present a paper once a year and sufficient meetings should be held to enable all to participate in this manner.

If a plan of this kind was carried out the County Society would soon be transformed into a sort of Medical Forum which would be productive of inestimable value in an educational way. For who can estimate the value of an idea gained at a County Medical Meeting when applied to the life saving business in which our profession is engaged.

Lastly, and we believe the greatest reason for the existence of the County medical Society, is that it affords a more frequent opportunity and get-to-gether place for medical men. It is a fact, patent to all, though we are not more or less loathe to admit, that an imp of his satanic majesty, masquerading under the nom de plume of professional jealousy circulates quite freely among the profession and is productive of more ill feeling among doctors, than all other forces acting in this direction.

We believe the cause, in most instances, lies primarily with the individual doctor. Though he may have been practicing alongside a colleague, rather than a competitor, for years, he has not become acquainted with or learned to know him. He has been content that the extent of his effort at sociability should consist of a casual hello omitting the title doctor from his greeting. Neither will make an effort to become acquainted with the other, and with only an occasional chance meeting, it is the most natural thing in the world, when you find a colleague taking care of some of your old patients to think he has procured them through some unethical procedure, and certainly through no fault of yours.

In talking on this subject with a rather prominent physician in this part of the state about a year ago, and one whom I had known as sort of living to himself in a professional way, he remarked "that after believing for years that the most satisfactory way to practice medicine was to take all he could get and religiously leave the other fellow alone, as it was impossible to cooperate and work with him anyway."

However, of late he had changed his mind and started out to find why this could not be done. He had not gone far, only far enough to become acquainted with his fellow practitioner, when he found the main fault was in himself. As soon as he got right he found the other fellows were right. It was only a question of becoming acquainted with and learning to know the other fellow.

In this capacity I believe the County Society serves its greatest function. It provides the opportunity for occasionally rubbing shoulders with your neighbor and finding out that he is a pretty good fellow after all. He, likewise will make the same discovery and both are thereby benefited.

Let us build up our County Societies. Not necessarily in numbers. We may already have all qualified physicians as members, but are we meeting regularly? Do we make an effort to have a program worth while for each meeting and do each of us plan to attend and participate in every meeting? If so we are fulfilling the obligation we owe to ourselves and the community in which we live.

R. W. F.

Clinical Congress of North American Surgeons.

The eighth annual congress of the American College of Surgeons, convened October 10, 1920, has just adjourned. The congress was entertained by the Canadians at Montreal. About 3,000 surgeons were present, and some 670 new members were initiated. It is interesting to note that 35 of these were from South America. There were six new members from Nebraska: Henry A. Johnson, Tekamah; Albert Lynch, Fairbury; Charles L. Mullins, Broken Bow; Charles O. Rich, Omaha; Donald B. Steenburg, Aurora and Herbert C. Sumney, Omaha.

Among the notable foreign guests were Sir Berkeley Moynihan of Leeds, England; Sir William Taylor of Dublin, Ireland; Mr. A. Carless of Essex, England and Sir Auckland Geddes, the British Ambassador.

The events of the congress may be classified under the following headings:

1.—Introductory.

2.—Clinics, scientific papers, and various exhibits.

3.—Consideration of standardization work in hospitals, and other "things medical," by assembled committees.

4.—Convocation of American College of Surgeons.

5.—Adjournment.

1—In the grand opening, Sir Berkeley Moynihan presented, on behalf of the Royal College of English Surgeons, a beautiful mace and with it their kindly greeting. It was a masterly talk by a refined English medical man, and it intensified the feeling of fellowship already existing, not only between Canada and the States, but between all America and Great Britain.

Dr. W. J. Mayo then gave an address as retiring president and emphasized the progress made in surgery in general during the past year, referring in particular to abdominal surgery. He pointed out some of the advantages of group practice of medicine and surgery, and recommended a closer affiliation between the biochemist, physiologist and physicist, and the bedside practitioner of medicine and surgery in all its branches. At another time during the congress, he again referred to group practice and warned the members that unless in some manner they accomplish greater cooperation and less competition, health insurance legislation and state control are surely coming.

Sir Berkeley Moynihan then gave an address upon the Murphy Memorial. It was an eulogy of the late Dr. J. B. Murphy, master surgeon of his time. A brief synopsis of the history of medicine, illustrated by lantern slides, served to carry the mind of the audience from Hippocrates, as the father of all medicine, up through the ages to the present day, and thus to place correctly in the Hall of Fame the memory of Dr. J. B. Murphy.

2.—Montreal clinics were taxed to accommodate such an assembly of America's surgeons, and only by a masterly management could it have been accomplished so well. Most visitors found a fair amount of operative work in the particular field they desired, however, whether it was the head, extremities, pelvis, abdomen or thorax.

Most of the scientific programs were full, but not over-long. Speakers were held to time, and their talks were snappy with emphasis on the cardinal essentials. Just enough of the technical and didactic was given to stimulate but not to tire the practical surgeon.

The exhibits of Sir William Osler's personal collection of pathological and anatomical specimens were presented.

The exhibits of McGill University were most interesting; likewise the Canadian war exhibit and others. The decided French and (to a lesser degree) Canadian elements in the congress environment were just sufficient to remind one from the states that he was really in a foreign country and being delightfully entertained.

3.—The work of standardizing hospitals is no longer new. Truly it is less far advanced than the standardization of medical colleges, for example; but none the less certainly under way. Not only has the A. C. S. undertaken to push this splendid activity, but the A. M. A. through its state associations, the American Hospital Association, both Catholic and Protestant, the Association of American Medical Colleges through its search for interneships, et cetera, are accomplishing much.

The A. C. S. at this congress called together its committees assigned to the state sectional work. In Nebraska, Drs. John E. Summers, Daniel T. Quigley and J. Stanley

Welch constitute this committee. Already six states have held their initial meetings, and it is probable that Nebraska will hold her meeting in the early part of 1921.

At these meetings three features will be especially emphasized: Forenoon clinics will be held under the supervision of local Fellows of the A. C. S. and such others as may be invited, whether A. C. S. men or not. These clinics may be operative or diagnostic in the various possible lines.

Scientific papers, discussions and exhibitions are planned for the afternoon meetings.

Then in the evening, a meeting of laymen as well as the profession will be held. This has been found to be of intense educational value, and also offers a correct means of presenting standardization ideas to the laity. Just as tuberculosis and cancer propaganda along popular publicity lines has caused a decrease in the mortality rate from these diseases, so will hospital and health standardization propaganda, properly presented, improve the surgical mortality of every state and community.

4.—The terminal session of the congress consisted of convocation services, at which the newly elected candidates were presented, and of a farewell address by President George E. Armstrong of Montreal and Sir William Taylor of Dublin. Dr. John Deaver was elected president for the ensuing year, and it is likely that the next congress will be held in his home city, Philadelphia.

National Leprosarium.

Dr. Oswald E. Denney has been selected to take charge of the new leprosarium to be established by the U. S. Public Health Service at Carville, La. This institution has been operated by the Louisiana health authorities and is shortly to be transferred to the Public Health Service. At the present time about twenty-five patients are under treatment, but extensions, sufficient to accommodate 2,000 lepers, will be made. It is estimated that there are now about 1,800 lepers in the United States, most of whom are scattered throughout the South, with a large number in the Northwest. It is the intention of the Public Health Service to place all of these in the leprosarium at Carville.—(Journal A. M. A.)

GENERAL NOTES

The Institute on Venereal Disease Control and Social Hygiene will convene in Washington, D. C., November 22 to December 4, 1920. This institute is conducted by the United States Public Health Service.

The All-American Conference on Venereal Diseases will be held in Washington, December 6 to 11, immediately following the Institute on Venereal Disease Control and Sex Education.

SOCIETY NOTES

The Omaha Roentgen Society will meet the first Monday evening of each month during the winter to discuss X-Ray subjects.

The annual meeting of the Custer Medical Society was held in Broken Bow on October 15th. The following officers were elected: President, Dr. W. E. Talbot; vice-president, Dr. G. I. Sell; secretary-treasurer, Dr. Theo. Koefoot.

The regular meeting of the Richardson County Medical Society was held on October 6th at Falls City. The following papers were presented and discussed: "Protein Sensitization in Hay-fever" by Dr. J. C. Gillespie and "Protein Sensitization in Asthma" by Dr. R. W. Fouts.

At a recent meeting of the Dawson County Medical Society the following officers were re-elected for 1921: President, Dr. J. H. Fochtman; vice-president, Dr. Charles B. Edwards; secretary-treasurer, Dr. J. E. Olsson. Dr. Wm. Birkofer was elected delegate.

Among those whose attended the twenty-first annual meeting of the American Roentgen Ray Society held in Minneapolis in September were: Drs. C. H. Ballard, W. L. Ross, Ernest Kelley, T. T. Harris, A. F. Tyler and A. P. Overgaard from Omaha; E. W. Rowe, R. L. Smith, R. Buchanan and I. H. Lockwood from Lincoln and R. C. Woodruff from Grand Island.

The last meeting of the Franklin County Medical Society was held at the Lincoln Hotel, Franklin, on Wednesday, Oct. 6th. Those present were: Dr. A. D. Dunn, Omaha; Dr. Quigley, Omaha; Dr. Campbell, Stamford; Dr. Hoylman, Naponee; Drs. Smith, Byerly and Campbell of Franklin; Dr. Sparks of Bloomington; Dr. Noil, Riverton; Dr. Dugan, Campbell; Dr. Baker, Hildreth and Drs. Devers and Johnston, Upland. A dinner was served at noon, after which the following interesting program was given:

Radium Treatment, Dr. D. T. Quigley, Omaha.

Kidney Diseases, Dr. A. D. Dunn, Omaha.

Drug Therapy in Whooping Cough, Dr. Devers, Upland.

A Case Report, Dr. Dugan, Campbell.

The following officers were elected for next year: Dr. Campbell, Franklin, president; Dr. Sparks, Bloomington, vice-president; Dr. Johnston, Upland, secretary-treasurer; Dr. Dugan, Campbell, delegate; Dr. Smith, Franklin, alternate delegate; Dr. Nail, Riverton, three-year censor.

It was decided to hold the next meeting in Franklin on the first Wednesday in June. It was agreed that a fair price for confinement cases was $25.00 and $1.00 per mile. City calls were raised to $3.00 in daytime and $4.00 at night. No other attentions made in fee bill, except on agreement not to make any old line insurance examinations for less than $5.00.

The Douglas County Medical Society is on the Job!

"Nerves gave way. Almost helpless a year ago—finds relief in short time!" Mr. Bert Curren of Oklahoma City—(address not given) "cured by intravenous treatments at the Interstate Sanitorium, second floor Neville Bldg."

The above is reproduced from an ad in a prominent Omaha daily paper. The half column ad was submitted to the Omaha World-Herald for publication and was rejected by the Herald after reference to the Douglas County Medical Society. Investigation by the secretary's office disclosed the fact that no doctor was connected with the erstwhile refuge for the sick and lame.

Thirty days were sufficient to close the Omaha offices in the Neville Bldg.

ABOUT THE DOCTOR.

Dr. Joseph M. Aikin underwent a second operation on November 10th. He rallied very nicely and his friends hope for a speedy recovery.

In portions of Iowa a double charge is made by doctors for calls over bad roads. This should stimulate the goods roads movement.

Dr. T. E. Fairall and family, Tecumseh, spent a two month vacation at Manitou.

Dr. M. F. Hall, Neligh, has made arrangements to conduct a private hospital at that place.

Dr. W. L. Davis, of Kansas City has located at Neligh as a specialist in eye, ear, nose and throat work.

Dr. Irwin Thompson, for a number of years a practitioner at Beemer, has located at West Point.

Dr. O'Conner has moved from Carroll to Coleridge.

Dr. W. P. Hodnett of Scottsbluff, has moved to Denver where he will devote himself to eye, ear, nose and throat work.

Dr. A. A. Johnson of Omaha has moved to the World Herald building and will practice internal medicine.

Dr. and Mrs. A. G. Dow of Omaha have returned from their wedding trip.

Dr. and Mrs. J. B. Ralph of Omaha are spending the winter in Los Angeles, Calif.

Dr. L. A. Merriam of Omaha, who has been ill, is convalescing in the Swedish Mission Hospital.

Dr. M. J. Nolan of Alliance has succeeded Dr. D. C. Ross at Potter.

Dr. J. W. Thompson of Sutton has moved to Lincoln.

Dr. C. C. Johnson of Lincoln has recently been appointed Attending Specialist in Surgery under the Public Health Service for War Risk Insurance Bureau at Lincoln.

Dr. George A. Cassidy of Omaha has moved to California.

Dr. C. C. Young, who has established a karakul sheep farm near Fresno, Calif., is said to be the only man who ever imported karakul sheep into the United States. The sheep come from the Kara-kum desert in Central Asia.

A daughter was born to Dr. and Mrs. Albert A. Fricke of Los Angeles on Sept. 22nd. Dr. Fricke moved recently to California from Omaha. Mrs. Fricke was formally Miss Bess McGuire of Chippewa Falls, Wis.

Dr. C. F. Dietz of Neola, Ia., was a recent caller at the Journal office.

Dr. Warren H. Slabaugh, for many years a practicing physician in South Omaha, but now residing in Los Angeles, Calif., was a recent visitor with relatives and friends in Omaha. He is a Journal reader.

Dr. Dora M. Judkins-Davies of Tecumseh has been appointed physician of the Johnson county insane commission, to fill the vacancy caused by the death of her husband, Dr. Charles H. Davies.

Dr. James C. Davis, Jr., of Omaha is in New York taking postgraduate work in eye, ear, nose and throat work.

Dr. C. T. Owings, formerly of Dunning, is now located in Los Angeles.

Dr. F. S. Spearman, Onawa, Ia., is seeking a location to practice medicine in Nebraska.

Dr. Clarence Minnick of Curtis was a recent visitor in Omaha.

Dr. J. E. Uridil, Blue Springs, has sold his property to a Dr. Fitch and will take up post graduate work looking toward a specialty.

Dr. Clifford Pinkerton, Akron, Ohio, spent his vacation with his parents at Pawnee City.

The McCook General Hospital has by lease passed into the hands of Mr. and Mrs. Wm. H. Ehlers.

The people of Chadron are discussing the advisability of building and operating a community hospital.

Dr. Mary Sheldon of Scottsbluff has become associated in the practice of medicine with Dr. A. J. Stewart, of Mitchell.

Dr. L. R. Markley, Bellingham, Wash., the pioneer physician of Kimball where he located in 1885, visited the latter place during September.

Dr. John M. Packer, formerly of Memphis, has located at Ashland.

The physicians of Burt county held their annual picnic at Bertha.

Dr. Alexander Bear, Richmond, Va., pioneer physician of the Elkhorn Valley is visiting friends at Norfolk. Dr. Bear practiced medicine in Norfolk for forty years and when he retired moved to Richmond.

Dr. Dwight Sigworth, whose parental roof is at Stanton, recently returned from army medical service and has located at Kearney.

Dr. Fred J. Colbert, Gering, has moved to California, in hopes of getting relief from asthma. He is succeeded by Dr. W. C. Harvey who has completed an efficient and acceptable internship in the M. E. Hospital at Omaha.

Dr. F. A. Brewster, Beaver City, it is reported will move to McCook.

The Physicians Hospital, Albion, is reported in a flourishing condition.

Dr. G. A. DeMay, Indianola, has gone to Kansas City for a nine months course in surgery.

Dr. Robert C. Person, Omaha, has located at Maryville, Mo., to do eye, ear, nose and throat work.

Dr. G. O. Remy, Ainsworth, was recently the central figure of a surprise party in commemoration of his sixty-ninth birthday. Dr. Remy has been a practitioner in Brown county continually since 1884.

Under the management of Mrs. Cora E. Sweazy, formerly in hospital work at Milford, the Seward Hospital has been enlarged and modernized and opened to the profession.

The annual conference of the Methodist Church adopted a resolution commending the movement looking toward new Methodist hospitals in Nebraska. There is a new Methodist hospital at Valentine, and Methodist hospitals are projected at Scottsbluff and Lincoln.

Lamar, the most westerly town on the O-L-D highway in Nebraska, an inland village, boasts of the advent of a doctor to minister to the suffering. Dr. Siville is his name.

The drive to finance the proposed new hospital for Chadron has been postponed until next spring.

Dr. Clark Beede, son of the late Dr. S. C. Beede, has located in David City.

Dr. E. E. Griggs, of Kansas City has located at Scottsbluff.

Dr. Jesse Wilson is the newest addition to the medical faculty at Broken Bow.

Dr. W. L. Wilmoth has located at Pawnee City. He recently came from Dennison, Kansas, although earlier he was a practitioner at Burchard, Neb.

Dr. P. J. Flynn, Plattsmouth, who has been ill for a number of months, has resumed practice.

The new Campbell hospital, Norfolk, claimed to be the most modern hospital in the state, was thrown open to the public, Oct. 9th. In response to a general invitation given through the press, several thousand people attended the opening exercises, and were conducted through the institution. The hospital has room for about fifty beds. There will be some rooms with two beds, but no ward accommodations. Twenty rooms were furnished by friends.

DEATHS

Dr. Ferdinand T. Stires, aged 37, dropped dead at the home of his parents at Columbus, Sept. 28th, of heart disease. He had recently relinquished his practice in Philadelphia, on account of failing health. During the first influenza epidemic he ministered to the people of Potter and vicinity.

MARRIED

Dr. F. A. Pollack, Norfolk, and Miss Laura Esswein, Stanton, were married Sept. 8th at Blair.

Dr. John C. Thompson, Lincoln, and Miss Florence Secord, Clay Center, were married in Lincoln, Sept. 29th.

Dr. Otis Martin, Omaha, and Miss Naomi Gray of Columbus, were married at the latter place Sept. 29th.

BOOK REVIEWS

Hygiene: Dental and General. By Clair E. Turner, Asst. Professor of Biology and Public Health in the Massachusetts Institute of Technology; Asst. Professor of Hygiene in the Tufts College Medical and Dental Schools. Cloth. Price $4. Pp. 400, with illustrations. St. Louis: C. V. Mosby Co., 1920.

This book is an excellent treatise upon the case, sanitation, and treatment of general conditions as seen by dentists. It discusses the cause of caries, and the prophylaxis of the mouth. It is a very complete work upon this subject and will be appreciated by the dentist and the doctor as the explanations are in simple language that can be readily expressed to laymen.

—C. J. W

BOOKS RECEIVED.

Maternitas. A Book Concerning the Care of the Prospective Mother and Her Child. By Charles E. Paddock, M. D. Cloth. Price $1.75. Pp. 210, with illustrations. Chicago: Cloyd L. Head & Co. 1920.

Exophthalmic Goiter and Its Nonsurgical Treatment. By Israel Bram, M. D. Cloth. Price $5.50. Pp. 438. St. Louis: C. V. Mosby Co. 1920.

George Miller Sternberg, A Biography. By his wife, Martha L. Sternberg. Cloth. Price $5. Pp. 232, with illustrations. Chicago: American Medical Association, 1920.

The propaganda for Reform by our A. M. A. Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, issues a timely warning against yielding to the seductive but fraudulent preparations urged upon the public by unscrupulous manufacturers of chemical compounds.

Fake "Orange Beverages," and "Bran-O-Lax" are recent frauds to be avoided, and their purchase discouraged.

A polished scholar and brilliant student is represented as giving up teaching because he could find no audience on a level with his ability or worthy of his instruction. Evidently that man was intent on his own glory rather than on any benefit to those who heard him. The one matchless Teacher, with all the wisdom of heaven at his command, simplified his messages to the needs of "unlearned" fishermen, and did not despise little bands of common people as listeners. But he came not to glorify himself bu to save the world.

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Post-Operative Gastric and Intestinal Hemorrhage—a Further Contribution.*

John E. Summers, M. D., F. A. C. S., Omaha.
Fellow of the American Surgical Association, Western Surgical Association; Prof. Clinical Surgery, College of Medicine, University of Nebraska.

As my Presidential address before this Society, read Sept. 6, 1906, I took for my title the "Cause and Possible Prevention of Gastric and Intestinal Hemorrhage, Following Operations for Appendicitis, Hernia and All Other Operative Procedures Involving the Blood Supply of the Omentum and Viscera." Too little that was worth while had been written in English upon this subject prior to the presentation of my paper.

Two reasons have suggested to me the propriety of again bringing this subject to your attention: the one, a recent case of intestinal hemorrhage following an operation for hydrocele; the other, several papers upon the subject of pulmonary embolism following surgical operations,—more particularly one by Ochsner, "Post-operative Pulmonary Thrombosis," published in the Annals of Surgery for July of this year. The causes of these complications following surgical operations are similar, and the symptoms developed are in most part if not wholly, dependent upon the fact, nowhere previously emphatically mentioned so far as I am aware, that pulmonary embolism occurs following a block,-plus or not-an infection in the systemic venous circulation; whereas, post-operative gastric and intestinal hemorrhage follows a block,-plu or not-an infection of vessels going to form the portal system.

I take the liberty of quoting freely from my previous paper, and first I will briefly narrate my personal experiences,—Six Cases, —Five previously reported.

Case 1, One evening I saw in consultation a feeble elderly gentleman suffering with an incarcerated left inguinal hernia. The history showed that there had been many similar attacks in which reduction had been quite easy, and in this instance light taxis failing, and the symptoms of pressure being mild it was decided to apply an ice-bag. During the night the hernial protrusion returned into the abdomen. The next day there were several, not serious bloody bowel movements. Such occurrences have been noted, especially in the days when "taxis" was the chief effort in the reduction of hernia and before early safe operation became the possible treatment.

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*Read before the Medical Society of the Missouri Valley, Omaha, Sept. 7, 1920.

Case 2, I operated upon a man sixty years old, for the radical cure of a long-standing right inguinal hernia. The operation was not difficult, but there were numerous adhesions, both of bowel and omentum, to each other and to the sac. Convalescence was ideal until the eighth day, when without warning, terrible gastric hemorrhages killed the man at the end of a few hours. Post-mortem examination by Dr. Lavender showed the stomach mucosa deeply stained with blood, and there were many small punctate erosions.

Case 3, I operated upon a woman fifty years of age, for a large strangulated umbilical hernia. The patient lived on the Kansas border of my State, and it was twenty-four hours after the occurrence of the strangulation before I was able to reach her home and operate. There were large masses of dark-colored omentum, and one loop of small bowel in the sac; the bowel was in fair condition. Most of the bad looking omental masses were removed and the operation completed as a radical cure. The patient was returned to bed in good condition, and I had no suspicion of any but a favorable result. Within two hours the patient was seized with copious hemorrhages from the stomach and died from loss of blood. No post-mortem.

Case 4, A young married woman twenty-five years old, six month pregnant, developed an acute right-sided pyonephrosis. I drained the right kidney through a vertical incision in the loin. One week later the infection appeared in the left kidney. I drained this kidney in the same manner as on the other side. In making the exposure of the left kidney it was noted without opening the peritoneum, that the descending colon hugged the kidney and left loin, i. e., that its mesocolon was unusually short and in the technic of exposing and draining the kidney the mesocolon was necessarily manipulated more than is customary. Twenty-four hours after the second operation abortion took place. On the fourth day following the operation terrible hemorrhages from the bowel occurred, killing the patient. Post-morten by Dr. Ludington. Starting opposite the kidney and descending down practically the whole length of the descending colon, the mucous membrane was dyed with blood. There were no macroscopical ulcerations; the blood had oozed through the mucous membrane and caused death by hemorrhage.

Case 5, I did a resection of the transverse colon for carcinoma in a man 38 years old. With the exception of the pathology indicated, the abdominal organs appeared healthy. A few hours after the operation blood appeared in the vomitus,—the vomiting had been induced by the ether anesthesia. I was fearful of serious, if not fatal, consequences, but the hemorrhage soon ceased and the recovery was further uneventful.

Case 6, A man fifty-two years of age, rather anaemic, was operated upon July 16, 1920, for the radical cure of hydrocele (bottle operation). The wound repair was per primam; no indication of inflammation, swelling, or infection. On July 31st, without warning, he had three large depleting hemorrhages from the bowels, causing extreme pallor; weak pulse, skin cold and clammy. Under treatment he gradually reacted from the hemorrhages, and is at this date apparently a well man. Careful X-ray examinations of the gastro-intestinal tract and the use of the sigmoidoscope, have failed to disclose the location of the source of the hemorrhage.

These six cases have given me much anxiety and self-communion. Many causes for the occurrence of gastric or intestinal hemorrhage following the kinds of operations indicated in the title, have been written of, some of which are easily understood, per example, diseases of the liver or circulatory apparatus or tumors. Any pre-existing lesion causing congestion or damming back of the portal circulation may readily after moderately gentle manipulation of either the stomach or intestinal walls, lead to mild or severe hemorrhages into these viscera. Ischemia or cholemia are known to tend towards hemorrhage, likewise sepsis and personal idiosyncrasies. Undoubtedly all of these and other conditions have led to serious if not fatal, gastro-intestinal hemorrhage. "A hematemesis from a venous cirrhosis is not compatible with a normal individual. One of the principal troubles of all hepatic dyscrasias is a tendency to hemorrhages; and cirrhotics bleed from their stomachic and esophogical veins exactly in the same manner as they have epistaxis" (Sauve).

When such conditions could be reasonably excluded I have no conception of hemorrhages of this kind following operations outside the abdomen, although they have happened. In my opinion other explanations of their occurrence are understandable.

The practical points to consider are: 1st. What are the causes of these hemorrhages? 2nd. How are they avoided? 3rd. When they do occur what is the most hopeful treatment? In the study of reported cases of post-operative gastric and intestinal hemorrhages one is immediately struck by the fact that there are two types: Those in which the hemorrhage occurs a few hours after the operation, and those in which the hemorrhage does not follow until about the end of the fourth day to later periods. Although many writers have attributed these post-operative hemorrhages to sepsis, I am firmly convinced that trauma is at the bottom of all cases in which no pre-existing circulatory congested condition existed; and when these hemorrhages have followed extra-abdominal operations, unintentional trauma was applied in some way to the abdominal viscera by position or pressure on the abdominal walls.

In this connection it may be profitable to review briefly some of the experimental and clinical facts from which deductions have been made. In order to do so the study of these intestinal hemorrhages was at first confined to their relation to strangulated hernia. The tightness and the duration of the constriction, the amount of force applied by taxis, and the length of the intestinal loop constricted determined in a degree the volume of the intestinal hemorrhage. Schnitzler, basing his conclusions upon the experimental work of Litten in the application of ligatures to mesenteric vessels in the study of the production of infarctions, wrote in 1894 the first scientific article on the symptoms, cause and prognosis of these immediate or early enterorrhagias, and the condition has been designated "Schnitzler's Disease."

As Schnitzler had written of early hemorrhages, Ullmann wrote of late hemorrhages, their production from four to seventeen days after operation, declaring the cause to be a thrombosis of the mesenteric arteries; he showed that hemorrhage might occur in non-strangulated cases. These late hemorrhages were designated as the "Type Ullmann." The next article of note was by Kukula of Prague, who insisted that a venous thrombosis was the cause of the hemorrhages, insisting upon the complexity of their causes (Sauve) "Schnitzler, Ullmann, and Kukula are the three great names connected with the subject of hernial enterorrhagia, and those who have written later are chiefly paraphrasers.

A resume of the ideas of Schnitzler, Ullmann and Kukula may be worth while in the understanding of both early and late intestinal and gastric hemorrhages following abdominal operations (Sauve). As a result of Litten's experiments, above referred to, published in Virchow's Archives 1875, it was shown that enterorrhagia did not follow if the ligature was removed and the blood current in the mesenteric arterioles and the capillary arteries and veins re-established before they were destroyed, otherwise it did.

Litten in writing of his experiments says, "Apply a ligature on a branch of the mesenteric artery. At the moment of ligation naturally all pulsation ceases in the artery and the intestine becomes anemic. The ligature must remain two and one-half hours before the destruction of the intestinal vessels of a dog is produced. If then one removes the ligature, immediately the blood is precipitated from the aorta into the territory of the mesenteric artery, and in an instant a powerful pulsation is established, and is followed by a great hemorrhage into the mesentery and under the peritoneal covering along the vessels. Hemorrhages into the intestine likewise occur.

After a short time the extravasation can follow if the ligature has not remained too long and if peritonitis does not develop. The hemorrhage occurs by diapedesis and is not by a solution of continuity in the vessel walls.

On this experimental work and corroborative clinical experience Schnitzler explained his theory of the occurrence of enterorrhagia in taxis or incarcerated hernias reduced by operation. Clinically it is observed that strangulated hernias of largest size, i. e., those containing the greatest lengths of intestine, furnish the largest number of cases of early enterorrhagia; a fact easily understood according to the theory of Schnitzler. When the sac is opened there is generally an abundance of bloody liquid, and the color of the intestine corresponds with the color of the fluid in the sac. Hemorrhages occurring in these cases are usually benign, as in my case, but may be fatal. Ullmann's theory of the occurrence of late hemorrhages is based upon Litten's experiments in that as a result of a constriction or trauma to a mesenteric artery a thrombosis occurs, then an infarction forms in the intestine, and in from four to seventeen days a necrosis of the mucosa follows and a sharp or fatal hemorrhage results.

If the thrombosis does not occur in the terminal artery, infarction will not take place, according to the experiments of Litten, but a retrograde thrombosis may follow until a terminal branch is reached. In the same way hemorrhages from the stomach may follow manipulations or operations upon the omentum or peritoneum. The shorter the distance of the trauma from the omental base, the quicker the formation of the clot and the earlier the hemorrhage—the clot passing into the gastro-epiploica early.

At the Congress of German Surgeons, 1899, Eiselsberg presented the report of seven cases of gastric or duodenal hemorrhage consecutive to abdominal operation where there had simply been a resection of the omentum without bloody interference on the intestine itself. None of these cases had at any time presented before operation symptoms of ulcer of the stomach. Afterwards they presented all the symptoms composed in the term hematemesis; in three of the cases ulcer was found on post-mortem. Eiselsberg thought that they were the result of retrograde thrombosis.

Professor Frederick having seen in his practice temporary icterus consecutive to resections of the omentum and noting researches of Eiselsberg, conceived the idea that this icterus was the result of retrograde thrombosis in the hepatic system, and he instituted an order to clear up this point of general pathology, which was undertaken by Dr. Hoffman, his student. These are the results: In guinea-pigs, resection of the omentum or ligature of the vessels of the omentum which include from one-third to two-thirds of the great omentum, determines the production of areas of hepatic necrosis, sometimes anemias, sometimes hemorrhages. In an undetermined number of cases when the zone of the ligature approaches the neighborhood of the gastrio epiploic artery, stomachic ulcers develop with hemorrhages.

The length of time between the operative thrombosis and the production of these lesions is variable.

Conclusion

The resection of the omentum in animals is susceptible of provoking a retrograde thrombosis followed by gastric hemorrhages. It is interesting and perhaps will serve to clear the question by following still further the experiences of Frederick in other animals.

Rabbits in contradistinction to guinea-pigs, very rarely present similar alterations, and among dogs and cats the thrombosis is still more rare. The explanation of this experimental phenomenon is probably chargeable to the increase in size of the animal, that is, the omentum and vessels become larger,—the greater the distance of the point thrombosed from the large blood vessels, the less the danger of the retrograde thrombosis in the formation of necrosis and hemorrhage. In other words, obstruction of the large vessels is not likely to be produced. However that may be, these experimental facts are precise; they accord with the clinical facts and pathological anatomy, and justify us in the belief that these types of hemorrhage are the result of arterial obliterations which produce this retrograde thrombosis.

It is interesting to know that Eiselberg considered the ulcers in the stomach and intestine as embolic, but on post mortem examination no emboli were found in the liver, kidneys or lungs. The other explanation was that emboli had passed through these organs without producing symptoms. This did not seem reasonable, so Eiselsberg fell back upon the opinion of Reklinghausen, which naturally could be explained only by a centripetal movement in the venous circulation, as example, by insufficiency of the tricuspid valves, by tracheal stenosis, and by strong efforts at coughing.

Eiselsberg also explained that another cause of mucous necrosis, stomach ulceration and hemorrhage might be found. If an artery of the great omentum was ligated, and as a result an extensive centripetal thrombosis developed, the thrombosis can extend up to and obstruct the stomach arterial supply so as to interfere with the nutrition of an area of the mucosa to the extent that the gastric juice acting upon it results in the formation of an ulcer. Numerous surgeons, among them Kehr, Mayo Robson, and others of less experience, have seen severe and even fatal gastric hemorrhage follow operations upon the gall bladder and gall ducts, and in spite of any theories to the contrary, I am convinced that these hemorrhages are produced in exactly the same way as the others we have discussed. The manipulation by the examining fingers called for in determining the exact conditions present, and the operative technic following the diagnosis can be readily understood as the cause of gastric or duodenal hemorrhages; they are either directly traumatic or secondary to a thrombosis in the gastric artery. Kehr is of the opinion that in some cases these hemorrhages are the result of the use of the tampons which produce a damming back of the portal circulation. It is certainly true that in cases of incarcerated hernia, hemorrhages into the sac and into the intestines are in many cases produced by a venous stasis. The veins being more compressed than the arteries because of their weaker walls, it would appear to me that in cases of very early copious and perhaps gastric hemorrhage, the condition is brought about by a venous centripetal thrombosis and a rapid transudation of blood through the gastric mucosa. This is the only way in which I can exactly comprehend these early frightful hemorrhages, and is in line with the opinion of Kukula.

Cackovic has often observed gastrorrhagia in suppurative peritonitis and attributed it to the ligation of the omentum, general stasis and hyperemia.

Sanio states that many cases of gastric hemorrhage have been observed after operations for appendicitis. Macrae reports two cases of this kind, each of a different type: In the one, on the thirteenth day following an interval operation for the removal of an enormous appendix, when the patient was about to leave the hospital, the wound having healed per primam, he was taken with a terrible gastric hemorrhage and nearly died. In the other, on the fourth day following a simple incision, and the establishment of drainage of an immense appendiceal abscess, eight or nine days old, the patient, a strong man 41 years of age, was seized with gastric hemorrhages and died.

From what I have written, all of these hemorrhages, mild or fatal in type, are the result of trauma, and I think they may be classed as preventable and non-preventable. The preventable are such as follow trauma in surgical manipulation, and are usually followed by early hemorrhage. It may, however, belong to the latter type. The non-preventable types are such as follow simple incision and drianage of appendiceal abscesses; dexterously performed operations for the radical cure of hernia; the interval operation for appendicitis and similar procedures. When gastric or intestinal hemorrhage follows such operations under the conditions given, the result is unavoidable. Even these unfortunate circumstances, however, and the knowledge that preventable cases are due to manipulation, should teach us all the necessity of extreme gentleness in the handling of the mesentery and omentum.

Treatment

Morphine hypodermically; or better, opium gr. 1, nitrate of silver, gr. 1-6, in capsule, may be given every three or four hours. Some one of the thrombo-plastines either intravenously or by the stomach. Gallic acid gr. 20, repeated every six hours is useful,—the above was the treatment employed in Case 6. Transfusion may be indicated.

Every surgeon of experience is familiar with the direful calamity of pulmonary embolism following surgical operations. Ochsner, in his instructive paper, has taken pains to consider briefly the opinions of some thirty-eight different men, and their viewpoints in this matter. Summed up, these may be stated as far as it is permissable to do so, that the cause of the pulmonary thrombosis is trauma plus possible, probable, or definite infection of some type. In reporting his own eight cases during the five years from 1915 to 1919, Ochsner thinks, and he has supportive evidence from several of the gentlemen quoted in his paper, that there are contributory causes to pulmonary embolism independent of the operation itself, such as (1) local infection, (2) anaemia, (3) slowing of the blood-stream as might occur in long-continued operation, (4) sub-normal general physical condition, (5) cachexia, (6) micro-organisms in the blood, (7) excess of white blood cells, (8) inefficient haemostasis, (9) traumatization of tissues with retractors, etc., (10) injuries of veins of extremities due to badly arranged operating table, (11) injury to the intima of veins,—rough handling of tissues, (12) excess of calcium salts in the blood. There is no severe traumatism or operation involving the head, neck, trunk or extremities, which may not be followed by pulmonary thrombosis. There is no abdominal operation involving an incision down to or through the peritoneum, with or without handling of intra-abdominal contents,—per example, the uterus,—whose venous return is connected directly with the general circulatory vessels (not the portal system) that may not be followed by pulmonary thrombosis. Traumatism (with or without infection) in the portal system, will not be followed by pulmonary embolism as usually met with; this can only come through this route after well-marked and clinically recognizable changes have taken place in the liver. Emboli do not travel through the liver by way of the portal system. They may form a block in the portal system with areas of hepatic necrosis. The rational explanation of pulmonary thrombosis, say, for instance, following an operation for appendicitis,—an interval operation, if you will,—or an operation for the radical cure of an inguinal hernia, or an operation on the gall-bladder, is that trauma, plus or not, some type of infection, produces the thrombosis in the vessels of the abdominal wall, and the embolism follows. It is the same in abdominal hysterectomy, except that there is added the double danger of trauma and infection to the pelvic vessels of the general systemic circulation. Any injury to the deep-lying general circulatory (not portal) return circulation, may likewise cause pulmonary embolism. I can see no fair way to consider the two post-operative lesions,—those of hemorrhage from the stomach and intestines, and pulmonary thrombosis, than from the standpoint which I have indicated. Other explanations, to me, seem visionary and not in accordance with known anatomy and pathology.

Conclusion

Assistants and nurses should exercise more care and gentleness in the pre-operative preparation of the patient: His position on the table; control while going under the anesthetic and while being prepared for operation, should be such as to prevent injury to or undue pressure upon any part of the body. This same rule should apply during the operative procedure, and after, until consciousness has been fully restored. The operating surgeon should make his incisions so as to, as far as possible, avoid injury to the blood-vessels overlying the parts the subject of surgical inquiry or procedure. Incisions should be made sufficiently free that the parts to be exposed and manipulated may be handled with the greatest gentleness. Violent retraction of incisions is always to be condemned. Asepsis should be absolute.

Modern Small-Pox.*

F. A. Wells, M. D., Axtell.

Modern small-pox is so unlike the description of the disease found in most text books that the young practitioner has great difficulty in recognizing the one from the other.

Experience in recent epidemics furnishes the foundation for this paper.

Of the definition and history of the disease, nothing need be said here.

The etiological bacterium has not been isolated as yet. It is conveyed by the secretions and exhalations of the body, especially those of the lungs. The pus of the pustule is its most fertile source and the dust derived from the dried pus scales is the more usual medium of its distribution.

The disease is much milder than formerly and death from uncomplicated small-pox is very rare.

The degree of severity of one case does not influence that of another caused by it, as a very mild case may be followed by one of considerable severity and vice versa.

The contagium is quite tenacious and may lie dormant for a considerable length of time in clothing, furniture or under carpets.

No age, sex or race is exempt but it is more common from fifteen to thirty years of age and very rare among the aged.

Almost perfect immunity seems to be furnished by a previous attack or by a successful, fairly recent vaccination. Some few individuals have a natural immunity.

Small-pox is infectious during the primary fever, but does not seem to be transmissible at that time by a carrier.

After a period of incubation of one to three weeks the patient is attacked by muscular pains and moderate fever of 100 to 102 degrees F. Light chills and nausea with vomiting are common symptoms. Headache is also common and the muscular pains are usually in the lumbar region. A mild conjunctivitis or cough is sometimes present. Attention is called to the similarity, at this stage, to an attack of Influenza. In two or three days these symptoms subside and the patient is apparently well.

Occasionally there is an initial rash, scarletinal or macular in character, but these are very rare.

On the fourth to the sixth day, the eruption makes its appearance as very small, red spots, first on the forehead and face and extending in one or two days to the body and limbs. In the more severe cases, it appears on the palms of the hands and the soles of the feet. These spots vary in number from one or two to many hundreds and in a case or two that were typical in other respects, there were apparently none at all. These spots gradually enlarge and in a few days become pustules. These pustules vary in size from one-sixteenth to one-fourth of an inch in diameter and generally remain discrete but occasionally, in the severest cases, become confluent. The larger ones are generally umbilicated, but the smaller ones generally are not.

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*Read before the Nebraska State Medical Association meeting, May 24-26, 1920.

Secondary fever occurs only in confluent small-pox and the severest cases of the discrete variety.

The most distressing symptom is the severe itching and burning of the skin which often prevents sleep for days at a time.

Complications are rare and in most cases, due to neglect. In one case of confluent small-pox with great swelling and ulceration of the lips, the administration of liquid food could only be accomplished by the forcible separation of the median portion of the lips. After the swelling and ulceration subsided, the outer third of the contiguous surfaces were found to be grown together and had to be separated by operative procedure.

The diagnosis of small-pox in its primary stage is often exceedingly difficult. Its resemblance to Influenza has already been mentioned. It may also at that stage resemble a severe cold, typhoid fever or meningitis. The initial rashes may cause it to be mistaken for scarlet fever or measles, while after the distinctive eruption appears, it is often mistaken for chicken-pox or itch.

The incidence of an epidemic of either influenza or small-pox will help to distinguish the disease at the outset. A knowledge of the character of the eruption of measles and scarlet fever will help to distinguish from those diseases and the general mildness of symptoms and superficiality of the eruption of chicken-pox, with the absence of umbilication, will distinguish from that disease. Also nearly always part of the pustules of small-pox are multiloclular, which is not the case in chicken-pox. The distribution of the lesions of small-pox is also of considerable diagnostic value. The part most liable to the eruption is the face. The wrists and backs of the hands are nearly as susceptible as the face, with the arms, back and legs next in order of frequency.

The prognosis at the present time, under favorable circumstances is almost always good. Fatalities being due to improper care and complications.

The treatment is symptomatic. Rest in bed, acetylsalicylic acid or some similar remedy to relieve the headache, muscular pains and fever, and a good antipruritic to relieve the intense itching and burning of the eruption, are the chief indications.

Early recognition is very desirable to prevent the spreading of the disease. Also the patient should be isolated and the other usual precautions taken.

After the dried pustules have all fallen off, a thorough disinfection of each case should be performed.

Discussion

F. B. Young, M. D., Gering:—I have been very much interested in this paper for one particular season. It has been my misfortune to have gone through some epidemics of small pox, one of which I want to report. Small pox as we usually have it is absolutely a negligible disease. In the epidemic, I had some eleven cases in adults who had not been vaccinated and had not had small pox previously. Ten died. The eleventh was a woman who was a middle-grade imbecile, and has since been in the insane asylum. That was practically 100 percent mortality in cases over eighteen years of age of unvaccinated persons who had not had small pox previously.

There were two men in the neighborhood who had had small pox fifty-two years before and bore severe scars. They had been in the habit of nursing those cases of small pox that developed in the country for several years. They each developed small pox in this epidemic, and one of them nearly died.

There was a man and his wife who had been vaccinated fifty-two years before, and each of them took small pox of a very mild type. I think the man had ten pustules, and the woman five or six. They could look after the other sick folks in the house. With the exception of these two—they were confined in the house with three who died and some who did not—none who had ever been vaccinated developed small pox.

Of those under eighteen years of age—I think there were thirty-two—none died, but none had a convalescence of less than three months. Some had deep sloughing muscular conditions, and two are now permanently crippled. All had deep boils and very severe skin symptoms. All are badly scarred and pitted. In pre-vaccination days small pox was considered a "children's disease" and was less severe than in adults.

This epidemic arose from one case from Tampico, Mexico. He was permitted to come through the port with one child with a temperature of 104 degrees, and scatter the disease in our community. That was an oversight on the part of the United States Public Health Service.

The important part for us is this: Our present-day method of handling small pox makes it a nuisance, more or less. It is the one disease for which we have an absolute preventive. I believe every man in this "Land for the Free and Home of the Brave" should have the opportunity of being vaccinated or having the small pox. It is a nuisance to keep up pest houses and quarantines when we have a preventive. If a man wants to have small pox, let him have it. Put a placard on the house, and let the others come and go. When I was in Public Health Service, that was my attitude toward it. I think some of the states have taken over that attitude and are acting upon it. I would like to see this State stop the quarantining of small pox and let us have it if we want it.

The above series of cases occurred in another state in 1913, and have previously been reported.

M. L. Hildreth, M. D., Lyons:—I suppose there isn't any one thing that causes so much discord among doctors, especially in the smaller cities and towns, as the diagnosis of small pox. This discord is so common, it is disgusting.

Several years ago I was formulating a protest to our State Board of Health, to be published through our Journal, advocating the abolition of the small pox quarantine. In pursuit of that investigation, I wrote to Doctors Bracken and McDavitt in Minneapolis. Minnesota three years ago abolished the small pox quarantine, and put the penalty on the fellow who does not get vaccinated. Anybody who has been vaccinated is allowed to come and go as he pleases. At first they were criticized severely, and by the profession; but now the profession is standing by them. People are getting vaccinated in large numbers, and it is working very satisfactorily.

I hoped pressure might be brought on our State Board of Health to cause them to abolish small pox quarantine. There is no question as to the efficacy of vaccination. No one questions that excepting the long-haired men and short-haired women who have formed these societies against it. We could bring this about, and I believe it would be a great reform and do away with the terrible trouble we have to face.

Every little while there comes into the community some of these cases of small pox—just as much as ever—but so mild they are insignificant in their fatalities; but they are a nuisance. If we could put a premium on vaccination and put a penalty on the unvaccinated, they could go to it. I have often said I wished a visitation of small pox would come that would take a lot of them. It would work well and be a life saver in the end.

I believe vaccination of the previous generation is one of the things that has made this such a mild form.

I noticed a day or two ago a report where a parent had allowed a child to die of malignant diphtheria without medical attendance, and the Court decided the man was guilty of murder and fined him a thousand dollars.

S. A. Swenson, M. D., Oakland:—I agree with Dr. Hildreth in regard to the matter of quarantine of small pox. The law of Minnesota in this respect I consider as nearly perfect as possible. Until we get our law changed, however, the differentiation between small pox and chicken pox is important because of the nuisance of quarantine. Our chief concern in dealing with small pox is the matter of quarantine. I do not believe that you can diagnose a mild case of small pox from the eruption alone. I have never had a case of small pox, however, where I have been the least in doubt as to whether it was chicken pox, after the eruption has appeared. I think a diagnosis can be made in every case from the history together with the eruption. In small pox the eruption appears after the fever has subsided, as the essayist has said. In chicken pox the eruption appears at the height of the disease. I have never seen this history of fever fail even in the mildest case.

C. C. Tomlinson, M. D., Omaha:—We have in Omaha a good many cases among the school children where the history is very unreliable. We find cases of small pox picked out by the school nurses and sent out of school who deny any history of preceding illness. We are then obliged to look for other means of diagnosis.

There are however two or three ways by which one can usually arrive at a diagnosis. I agree with the doctor that there are times when it is impossible to make a diagnosis when you are called the first day of the eruption, and there is no harm done by waiting a few hours for definite evidence, provided the necessary precautions regarding exposure are taken.

The things which I try to review in arriving at a diagnosis, in order of importance, are:

(1) **Distribution:** Generally speaking, smallpox selects exposed parts, and in chicken pox the trunk bears the brunt of the eruption.

(2) **The Type of Eruption:** The chicken pox lesion usually springs from a superficially seated erythematous macule while the small pox lesion is invariably built up from a more deeply seated and infiltrated base.

(3) The chicken pox vesicle is unilocular and easily ruptured and small pox multilocular and resistant.

(4) Chicken pox lesions are commonly seen in different stages of development and small pox shows uniformity of development.

After reviewing these points you will have in the majority of cases arrived at a diagnosis and will not be misled by the ofttimes unreliable statement of the patient regarding prodromals.

H. M. McClanahan, M. D., Omaha: My friend Hildreth and Dr. Young lay their emphasis mostly on the matter of quarantine and vaccination. I am here to say that personally I can agree with them, but they must remember that the State Health Department is a creature of our law-making body, and cannot very well do just the things the Department might think best to do. There are a vast number of people in this State who are opposed to vaccination; and going up and down this State as I have for many years, I find many of them saying they would rather have small pox than be vaccinated. It is a difficult thing to overcome that feeling of prejudice. There is no one who has more respect for vaccination and confidence in it as a preventive than I have. For that reason I would like to see a law enacted whereby we would thrown down the bars, and let them have small pox or vaccination; but so long as we must abide by the law-making body of the State, I do not see how we can accomplish it.

James F. Edwards, M. D., Omaha: I am very much interested in this particular discussion. With conditions as they now exist we are not getting anywhere. We only lock the stable after the horse is stolen. Unless we can have a law requiring the vaccination of school children before they are admitted to school, we will make no progress in controlling this disease. It seems to me that under present conditions we would do better by not imposing any special quarantine upon people with a case of small pox, but pay attention to it only to keep the person who has small pox in restriction; putting it squarely up to others to be vaccinated or run the risk of taking small pox.

Dr. F. A. Wells: It is almost a calamity when it comes to trying to stop a disease, that it is so light. If it were severe enough to make people very sick they would rather be vaccinated than to have it, and it would be easy to get them to be vaccinated. I have been told many times by my patrons that they would rather have the disease than the vaccination. I fully believe in vaccination.

Charles Inches, M. D., Scribner.—I have spoken at times in the course of thirty-eight years of matters pertaining to small pox and vaccination. It is fifty-two years since I saw the last real small pox come to this country. Nothing so concise, compact, and representative of the disease known as small pox have I seen as that which came into the city of St. John's in a sailing vessel.

In New York I was on service in a hospital. In this hospital was a small pox ward, and it was nearly empty. One afternoon I was on the grounds when in came this tug boat, and landed its cargo up there. There were seventy-two cases of small pox, and it was small pox. It was the simon-pure thing. They died. It was confluent small pox where things would peel off like gloves. And stink! I should say! In the dead house we would go down after dinner from the main hospital, and there would be a bunch of coffins here and there, and we would have our pipes, and we would get to work.

I cite all this as a reason why in all that has happened in these succeeding years, it has made me touchy whenever I hear anyone speak about small pox lightly, and when reformers are promulgating all sorts of things they will do.

I found myself in private practice in 1871. Suddenly at the sailors' boarding house a man died. Then we found a couple of Irish girls coming down with the small pox. They called it black small pox. The undertaker had given the idea this man had been pounded to death, because he was black and blue! There was no half-and-half about that. It did not put that community into a funk. The Governor of the Province of Canada acted quickly, and twelve doctors were called together, and in an hour's time the whole community of the city of St. John's was divided among those twelve to be vaccinated. Each doctor was to see every solitary one in his division. On Monday morning I had a little vial, and at the bottom of that I do not think I had more than two minims, I took from two babies I had vaccinated before—a beautiful little crescent. Then I sallied forth to vaccinate. I was in the tenement district. Children were out at school. I did one hundred and eight before I went to bed. There was nothing ever done in vaccination so absolutely thorough as this. The point is this: That vaccination was perfect. It checked that disease, as anybody with intelligence could see. Statistics were kept, and at the end of a week we went to the Mayor's office. I found them there twenty-seven years afterward. I do not know anything in all my medical career that has been so clear as that demonstration and result in vaccination.

What was I using? It was humanized virus.

The Therapy of Corneal Ulcers.*

D. D. Sanderson, M. D., Lincoln.

It is not my intention to present to you any precise method for treating corneal ulcers, or to give you so complete a review of the various methods used that it will enable each of you to properly treat all forms of ulcer. However, I consider that bringing to your attention a number of the various methods, both good and bad, that are before the profession at the present time might be of interest to you.

Inasmuch as an ulcer is but a septic breaking down of the cornea, either as a direct result of the invasion of bacteria or toxines into the part; or, as a result of exposure or trauma that destroys the resistance of the tissues to such an extent that it aids the bacteria or toxines in their invasion; the treatment to be used in the various forms of ulcer is but a direct attack upon the cause. Therefore the removal of a cinder or other foreign substance from the cornea is but a removal of the primary cause, and the invasion of bacteria and forming of a true ulcer may come later.

This fact should impress upon the man who is not adept at removing substances from the eye, that the possibility of causing more harm with the trauma he produces is greater than if he allowed the substance to remain until it could be removed by some one competent to do so.

The most important of the numerous remedial agents to be considered in the treatment of corneal ulcers is the building up of the general system to normal or increasing the general resistance of the patient. Numerous sloughing ulcers, the result of injuries to the cornea in an individual of extremely low vitality, will often times respond readily to stimulating systemic tonics when local treatment is rapidly proving a failure.

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*Read before the Republican Valley Medical Association, McCook, Neb., May 20, 1920.

Mr. K., aged 72, was hit in the eye with a particle of wood that adhered to the cornea. At the time of the removal a small sloughing ulcer was noticed. The ulcer spread very rapidly in spite of various local measures until large doses of elixir iron, quinine and strychnine were given. This caused prompt improvement and rapid healing with no more assistance locally than simple cleansing.

The necessity of the stimulant, for I consider it was the stimulating effect of the medicine that caused the improvement, was plainly demonstrated by the fact that after taking it for five days and being told the ulcer was rapidly improving, he decided it was unnecessary to take more. The ulcer at once showed evidences of breaking down, but was again improved by more stimulant.

Very close to the building up of the general system is the removal of the various foci of infection. There is no part of the system more often attacked as the result of focal infection than the eye. This is partly a result of the nerve portion being sensitive to the toxemias, and partly because the terminal branches of the blood and lymph supply make an excellent harbor to hold the bacteria and toxines. Therefore it is often only necessary to care for the teeth or sinuses in order to cause a very rapid healing of many ulcers. I would likewise call your attention to the fact that very few inflammations of the eye, especially corneal ulcers, are caused by any infection or toxemias from the tonsils.

Miss C., developed a marginal ulcer that spread slowly to cover one fourth of the cornea before it was possible to control it. She was referred to her dentist who X-rayed and carefully examined her teeth, and reported them in perfect condition; Von Pirquet test negative; Urine negative; Wassermann reaction negative; the family physician advised the removal of her tonsils, but this was not done. The ulcer was finally healed but in about six months it broke down again. She was then referred to a roentgenologist who reported a large abscess on the remaining root of a tooth that had supposedly been pulled twenty years previous. After this was cared for properly the ulcer healed very rapidly and has not recurred.

Dry heat is often applied by the illuminating lamp, hot pad, or thermophore, or moist heat by hot compresses, steam generator, vapor bath, or the pasteurization method of Prince. Cold though used much less than heat is usually applied for the relief of infection that involves not only the cornea but also the conjunctiva. It is usually applied in the form of cold irrigations or cold packs. This is especially true in ulcers of gonococcic origin. Either heat or cold, or both are often used in connection with any of the other modes of treatment.

The antiseptics used vary from the mild boric acid solution to the acid cautery. Ulcers of the cornea in patients with low vitality often respond very kindly to mild antiseptic solutions and will often times break down and slough even to perforation, under the application of stronger medication.

Acid cauteries are of great benefit in some cases but care must be used in selecting the cases in order to receive the greatest benefit. Acid cautery misapplied, even though it is very mildly done, will not improve the existing condition.

It is claimed by many specialists that zinc sulphate is a specific against the Morax-Axenfelt bacillus; silver nitrate or acriflavin against the gonococcus; and optochin or quinine hydrobromide against the pneumococcus. But my observations of these various agents in solutions that will be tolerated in the eyes of the average individual, do not warrant these conclusions. Therefore I would only consider them as part of the many useful agents in the various modes of treatment. It is quite true that some ulcers will respond readily to forty percent silver nitrate, or to one to five hundred bichloride of mercury that will give no response to either mild antiseptics or acid cautery.

Mr. E., while recovering from the "flu" thought he had gotten something in his eye. Examination showed a dendritic ulcer extending completely across the cornea. Various forms of treatment failed to control the spreading until irrigations of one to five hundred bichloride of mercury were used. This caused prompt and rapid healing.

At the present time the infections for which we may administer definite medication are very few. The most prominent of these are diphtheria, malaria and syphilis. It is to be hoped that this small number will be greatly increased in the near future.

Sometimes the ulcer originates from diseased conditions of the conjunctiva. The most important of these are eczema, follicular or trachomatous conjunctivitis. If the primary cause is of this character it must be properly relieved before satisfactory improvement can be obtained.

The operative treatment of ulcers is extremely necessary in some cases.

In circular ulcers resulting from strangulation of the cornea caused by infection of the conjunctiva or deep orbital tissues, it is often not only necessary to make an extensive incision into the conjunctiva but also into the skin and deep tissues to relieve the hyperemia. If the condition has advanced to the stage of pus formation the incision must be extensive enough to allow free drainage.

Many ulcers resulting from various eruptive diseases, especially smallpox, have an accumulation of detritus that forms on the ulcer surface. It is usually necessary to curette this away thoroughly and remove all of the adherent particles before the ulcer will properly heal.

Incision of the cornea to prevent perforation is sometimes necessary. Authorities differ as to the location of the incision. Some claim that it should be made through the area of the ulceration, and many others point out the advantages obtained by making it in some portion of the cornea that is not already involved. My experience very greatly favors the latter. For it is undoubtedly better to make the incision at some place where healthly tissue is found and where there is comparatively little danger of an adhesion forming between the anterior capsule and the cornea than to make it where this is most likely to occur.

The pain that accompanies corneal ulceration is often very severe. It is usually more marked in ulcers involving extensive epithelium destruction but not involving the deep layers of the cornea. This is not true however, if the infection is extensive enough to cause an inflammation of the iris and ciliary body. The former is usually relieved by the application of heat; while instillation of atropine until the pupil is completely dilated will usually greatly aid the heat in the relief of the latter condition. If the tension is increased as a result of deep circumcorneal irritation, the use of eserine or pilocarpine until the pupil is contracted will sometimes be of benefit, but these conditions are not met with very frequently. However if the tension is increased as a result of iritic irritation atropine will not only reduce the tension but will rapidly relieve the pain. Because of the action of cocaine upon the epithelium it should be used as little as possible. It is far better to control the pain with opiates than to continually administer cocaine, even in weak solution.

Owing to my extreme dislike for the actual or electric cautery and surrounding incision mode of treatment, I hesitate very much to express my opinion upon them. Therefore will allow you to form your conclusions of the former from a few of our leading specialists.

Suker says, "The possibilities of doing any good are very limited and it may do an extreme amount of harm. I consider the extent of burning entirely too uncertain to expect proper benefit in treating ulcers."

Green and Jennings have each likewise abandoned it.

May uses it sometimes.

Hawley considers it useful if applied lightly enough, but says, "It should be used only with the very slightest touch."

L. Weekers, American Journal of Ophthalmology, vol. 2, says, "After cauterization it is not rare to observe violent pain during several hours. After thermotheraphy the pain is relieved and the amelioration continues." In his article he points out the entire destructive elements of the cautery and calls attention to the increased density of the corneal opacity following the cautery applications. To remove the eye ball will of course cure the ulcer but the eye is of no use to the patient. Likewise to burn it with the cautery and scar it so deeply is little better than complete removal. The surrounding incision very seldom scars so deeply as the cautery but like it, is only mentioned to be most emphatically condemned.

Concluding, I would only call your attention to the fact that to obtain the best results not only must the cause of the ulcer that is being treated be considered, but likewise the entire general system of the patient.

Lethargic Encephalitis.

Frank. X. Rudloff, M. D., Battle Creek.

Lethargic encephalitis or, as sometimes called, epidemic encephalitis, as defined by Bassoe of Chicago is a toxic infectious syndrome characterized clinically by the triad lethargy, ocular palsies and an irregular febrile state. It is characterized anatomically by a diffuse encephalitis. The recent epidemic first made its appearance in Vienna in 1916, and in England in 1918; later in France and then to America in 1919. The first cases in England, this being at the time of the world war and food conditions being rather serious, were thought to be food poisoning or botulism. These cases of food poisoning as they were called came on gradually, instead of a sudden onset, and had a tendency to recover instead of proving fatal. Finally the idea of food poisoning became untenable, and the disease, which was seen to occur independent of diet and under usual conditions of life, came to be viewed as probably of a specific microbic origin and probably communicable. The question as to the communicability is as yet unsettled. The fact that it occurs in epidemics speaks strongly of a communicable nature, yet there are very few reports of more than one case in a single family.

Report of cases seen and studied in the University Hospital:

Case 1. F. B., girl, age 10. Began as a pain and tenderness in right upper quadrant—later developed staring look, indefinite headaches; loss of appetite, stuporous condition.

Family history negative.

Examination after about two weeks of disease: Patient emaciated, lying stiffly on her back, staring expression, mouth partly open, answers questions with a nod. Otherwise negative except a positive Kernig and a questionable Babinski.

Temperature ranged from 99¼ to 100 most of the time but reached as high as 105½.

Urine shows diacetic acid (probably starvation).

Blood count, hemoglobin 80, reds 4,670,000, whites 12,000 to 14,000; no differenial was made.

Spinal fluid normal. Widal negative.

Patient went on to recovery.

Case 2. Mr. E. M., age 44. Patient delirious, unable to give history. History as given by employer: Left before Christmas and returned after several weeks with a cough, complaining of general malaise, vertigo, headache, diplopia. Physician called who made a diagnosis of pneumonia which later was changed to typhoid fever.

After about one week to ten days of illness became delirious, the condition in which the patient entered the hospital.

Examination: Patient lying in bed with a mumbling delirium. Twitching of muscles.

Eyes: Pupils equal and regular react sluggishly to light. Slight stiffness of the neck.

Lungs: Decreased resonance posteriorly, middle lobe—decreased breath sounds lower right—(history of old pleurisy)—hence the diagnosis of pneumonia.

Reflexes normal.

Urine negative.

Spinal fluid: Slight increase of pressure, cell count 55, globulin positive, Wassermann positive in .8; second Wassermann negative.

Culture from throat principally staphylococcus.

Widal negative.

Blood count: Hemo. 90, Reds 6,200,000, Whites 8,000.

Blood: Wassermann negative.

Provocative salvarsan gm. .2 followed by negative Wassermann.

Temperature from 97 to 101¼.

Recovery.

Case 3. Mrs. C., age 32. Complaints: Dizziness, diplopia, drowsiness, difficulty in swallowing.

Examination: Patient somewhat nervous, difficult to hold attention, twitching of muscles choreiform movements.

Eyes: Strabismus—right pupil larger than left—react sluggishly to light, nystagmus.

Pregnant at almost term.

Reflexes exaggerated.

Urine: Negative except slight trace of albumin.

Blood pressure 110/80.

Blood count: Hemoglobin 80%, Reds 4,600,000, Whites 7,000.

Spinal fluid: Slight increase in pressure—cell count 15.

Globulin and Wassermann negative.

Sinuses negative to X-ray.

Normal delivery after about ten days of the disease.

Recovery.

Case 4. Mrs. M., age 30. Not in condition to give history—entered hospital in almost a complete coma. Pupils react to light sluggishly.

Reflexes active—Babinski +; spinal fluid—increased pressure, cell count 30—Wassermann test negative.

Urine: Negative except for slight trace of albumin.

Blood count: Whites 8,000 to 13,000.

Blood pressure 130 to 140/70—100.

Sinuses negative to X-ray.

Death after about 10 weeks of illness—no autopsy.

Two other very similar cases were observed, both of which recovered. One presented a peculiarity in that the spinal fluid contained an atypical pneumococcus in both smear and culture. Clinically the case followed closely the cases of lethargic encephalitis, but by laboratory findings would seem a meningitis, yet made recovery which would be rather rare for pneumococcic meningitis.

Etiology.

The etiology of encephalitis is still quite obscure. Its occurrence at the time of the great influenza epidemic, and besides in 1890 a disease called nona is described as very similar, also occurred in connection with an epidemic of influenza, leads many authorities to feel that there is some relationship. It was at first thought that the cause was due to direct action of Bacillus Influenze. A very good explanation seems to me for its occurrence in connection with influenza is the fact that, as no doubt all have observed, influenza was a very depressing disease, especially so upon the nervous system making it susceptible. Not only was the nervous system susceptible, but various other ailments followed in its path.

A considerable amount of animal inoculation has been tried with more or less varied results.

Loewe & Strauss of New York after a series of experiments on rabbits with both the spinal fluid of cases of encephalitis and nasopharyngeal washings report a small globoid organism similar to that of poliomyelitis.

Pathology.

Having never seen a postmortem examination can give no first hand information on that subject.

In searching recent literature find up to the present not many postmortem examinations have been made. In those made there was found macroscopically a congestion of the leptomeninges, pinpoint hemorrhages in the region of the basal nucleus, pons and peduncles, the cord changes less marked. The cortex is usually quite normal. No definite exudate was found.

Microscopically a cellular infiltration most marked in the gray matter. The cells were principally lymphocytes with an occasional plasma or polymorphonuclear leucocyte.

Symptomatology.

The onset is usually quite insidious with a prodrome of general malaise, headache increasing to vertigo, ocular palsies and lethargy. Occasional cases present a picture of delirium instead of lethargy. In some cases besides ocular palsies other cranial nerves are involved. Probably no case on record of the first, rarely the second. In one case observed some choked disk was present.

The temperature usually is not high, 100° to 101°, except in severe cases the temperature may reach 105° or higher, probably due to pressure on heat centers. The blood picture usually shows slight increase in leucocytes and no change in erythrocytes. The spinal fluid under slightly increased pressure, may or may not show increase in protein content, cell count from 15 to rarely higher than 100 principally mononuclear type of cells. Urine is negative except frequently some albumen present. The blood pressure not a marked change unless extreme case when a fall takes place.

In the study of the literature one finds various observer's attempting to make a classification of the disease. Dr. House, of Portland, Oregon, speaks of two types—one the characteristic case with its lethargy and palsies, the other presenting instead of lethargy delirium and vivid hallucination predominate throughout. One such case was observed.

Dr. Mix, of Chicago, divides his observations into four types: 1st—fulminant or malignant type which proves fatal in a few days, and manifests itself as an acute mania; 2d—a mild or abortive type, and may in many cases pass without diagnosis; 3d—which runs a moderate course without localizing signs; 4th—the more usual type.

Prognosis.

Of the six cases which I have seen there was one death. Cases reported by various observers, the mortality ranges from about 10 to 20%, hence would say the prognosis is comparatively good.

Diagnosis.

Based upon the symptomatology and the presence of former cases. A great asset to diagnosis is the lumbar puncture—spinal fluid usually flows with increased pressure, contains an added globulin content, added cell count from 15 to rarely more than 100 cells. Most cells are mononuclear.

After history and spinal puncture is made a differential diagnosis must be considered. Botulism or food poisoning has been diagnosed in a number of cases. Food poisoning may be eliminated by the fact that other members of family would also be affected, and the onset is more sudden. Besides botulism is a very fatal disease while lethargic encephalitic has a tendency to get well.

Tuberculous meningitis usually occurs in children, paralytic phenomena occur late. Examination of spinal fluid and where possible animal inoculation will be of value. Epidemic meningitis may be ruled out by spinal puncture and microscopic examination of spinal fluid. Syphilis must in all cases be considered but may be eliminated, by a more insidious onset, history may be of value and finally by a Wassermann test. Poliomyelitis by its more frequent occurrence in children, a summer disease and animal inoculation. Brain tumor can usually be easily ruled out by its very insidious onset.

Treatment.

At present the treatment is empirical and of course symptomatic. Every effort must be made to reduce bodily expenditure. Nasal feeding in severe cases may be necessary. Dr. Mix, of Chicago, suggest a possible benefit from sodium cacodylate or salvarsan, this of course is entirely empirical.

In the cases observed at the University Hospital, we seemed to get the greatest benefit from repeated spinal punctures removing from 25 to 50 cc. each time to lower pressure, as often as twice daily in severe cases was necessary. I have seen cases in almost complete coma, irregular respiration, immediately improve on spinal puncture. Another delirious case would often fall asleep immediately following his spinal puncture. A very interesting incident was observed on one severe case which in almost complete coma, improved markedly when foot of bed was raised. We felt that this permitted the vital centers which were being forced down into the foramen magnum to be released with immediate improvement in the respiration, an increase in the pulse and an increase in the blood pressure following.

In conclusion may say that much has been written, but aside from the clinical picture, and some of the pathological manifestations little is at present actually known about lethargic encephalitis.

Treatment of Trichomonas Intestinalis With Methylene Blue.

Max Block, B. Sc., M. D., Omaha, Neb.

While there has been no specific found to combat the trichomonas, I call attention to the fact of the successful results obtained in the use of methylene blue in the case reported below.

The diagnosis of diarrhea is important, as it is only a symptom and not a form of disease which is so often treated as such. In every case of diarrhea there is an underlying cause for its appearance which is to be isolated, then treated as such and only then are we benefitting our patient.

To illustrate, I shall cite the following case which came under my observation recently.

David C., age 22, clerk in an office and former soldier, consulted me in January 1920, complaining of abdominal distress, diarrhea, loss in weight and a feeling of lassitude.

Past History: Has had intermittent attacks of diarrhea for the past eight months, since he was in the army, having had from six to ten stools daily. He has gradually been losing in weight and feels worn out possessing no ambition whatever. Served in the army for six months in the Phillipine Islands, has had previous attacks of rheumatic fever.

Present history: Has from eight to ten stools daily, which he describes as watery, foul smelling and of a yellowish appearance, alternating at times with a grayish appearance. He states that his frequent stools are brought on and aggravated by eating a heavy meal. Has been gradually losing in weight. Complains of a distressed feeling in upper and middle quadrant of abodmen which, too, is accentuated by eating but which is not relieved by the taking of soda. Family history, negative.

Physical examination reveals a young man of slight stature. Rather emaciated, face drawn and having a worn out appearance. Head and neck negative, teeth and gums in good condition. No palpable glands, chest negative, heart sounds normal. Abdomen—liver boundaries normal, no tenderness over McBurney's point, but slightly tender over the epigastrium. Both superficial and deep reflexes normal. Rectal examination proved negative—urinalysis negative, gastric analysis normal, Wassermann test negative.

The stool was sent to Dr. Michael G. Wohl of Omaha, who found the presence of trichomonas intestinalis. The trichomonas intestinalis is a pearshaped flagellate organism averaging about fifteen microns in size. It has three vigorously moving flagella arising from the anterior blunt end and a fourth wavy one which turns backward and is attached to the side of the body by an undulating membrane arising near the anterior end and running through the body. It is a sort of supporting rod called the axostyle which acts as an organ of locomotion.

The body of the trichomonas revolves as it wends its way through semi-liquid substances. Encysted forms have also been noted. The trichomonas is generally regarded as harmless but there is no doubt that it may be responsible for intractable diarrhea as in our case. The usual habitat for the organism is in the small intestine, however they have been found in the oral cavity by Zunker and Stienberg. Conheim and Strube isolated the organism from the oesophagus and stomach.

Transmission: This case undoubtedly became infected while residing in the Phillipines through intake of food or water.

Treatment: Patient was admitted into hospital in April. As suggested by Dr. Michael G. Wohl, methylene blue was used freely by mouth and as a rectal irrigation. He was given nine grains of this substance by mouth daily, in three grain divided doses, also ten grains to the quart of hot water was given as a rectal irrigation morning and evening. He was put on a liquid diet and instructed to remain quietly in bed. This was kept up over a period of five days when he complained of severe burning on urination and the preparation was withdrawn for a period of three days. A stool examination was made at this time, but no flagellate forms were found. The methylene blue was repeated over a period of five days and by this time the diarrhea entirely subsided, the stools took on a formed appearance, the distressed feeling disappeared, and the patient gained in weight.

Another stool examination was made, but no trichomonas could be found. The patient was discharged from the hospital after a period of three weeks in good condition. Since then he has resumed outdoor work, his appetite is good, and he can eat a guarded diet with no deliterious effects. He has gained considerable weight and it is now almost six months since his apparent cure when leaving hospital and no parasites have been isolated. I might state that he is still on small doses of methylene blue.

Methylene blue possesses an antiseptic property. It is supposed to be absorbed by the parasites, causing them to become round and quiescent, they decrease rapidly and disappear usually within a few days.

Summary: (1) The trichmonas intestinalis is a causative factor in severe diarrhea. (2) Methylene blue acted as a germicide and proved a curative agent in this particular case.

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Sporotrichosis With Report of a Case.

Dr. Michael G. Wohl, M. D., Omaha.

This report has been written to call attention to this curious, yet by no means as rare a condition in the state of Nebraska as was formerly supposed.

Sporotrichosis is a disease caused by a fungus Sporothrix schenkibeurmanii. It has been known only since 1898. In this country there have been reported less than 100 cases in literature.

From Nebraska, cases were reported by Gifford (Opthalmic Record-1910) and McLean (J. Am. Med. Assoc. Nov. 24, 1917, P 1774).

It seems certain that sporotrichosis is more widely distributed in this state, but cases are either not reported or the disease is passed unrecognized. It bears a close resemblance to cutaneous tuberculosis or syphilis for which conditions it is most often mistaken; particularly is this true of syphilis; since the cutaneous lesions of sporotrichosis disappear very readily under iodide treatment.

Report of Case

Mr. R. W. S.—Patient of Dr. A. L. Lindquist, South Omaha, Neb. Patient is millworker; age 41. He states that three months previous to consulting a physician he noticed a nodule the size of a small pea on the flexor surface of the right wrist. It was painless at first, but kept on getting larger until it reached the size of a hazel nut; then it ruptured and

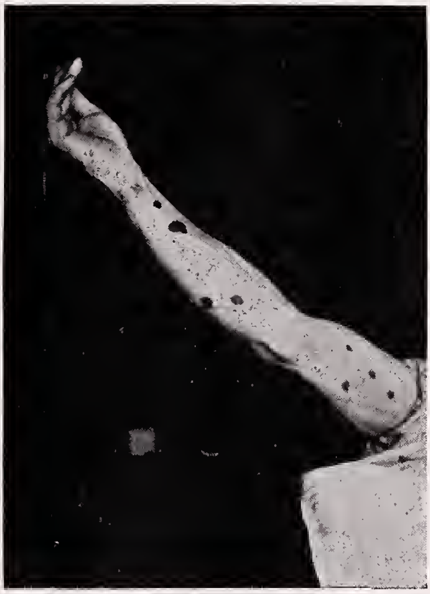

Fig. I.—Inner aspect of arm showing lesions of sporotrichosis.

a bloody viscid material discharged from it. It then assumed the appearance of an excavated ulcer as in Fig. 1A. Soon other nodules developed along the right arm. He had no systemic symptoms from it except pain when nodules were pressed upon.

Patient stated that while working with old "molded" boards he received an injury on the wrist at the place corresponding to the primary sore. In this instance this seems to have been the site of entrance of the infection.

Physical examination showed a man apparently healthy. On the right arm there were eight distinct nodules varying in size from the point of a lead pencil to that of a small pea. They had a red appearance, were hard to the feel and tender to touch. Upon passing a small needle into one of the nodules there was obtained a thick, gelatinous-like material mixed with blood. Fig. 1B.

At the wrist there was an ulcerated area the size of a quarter. It had indurated irregular edges; the base presenting granulations and several points covered with a gummy-yellow material. The axillary lymph glands were not enlarged nor did the lesions follow strictly the lymphatic course.

The Wassermann reaction was negative. Leucocytes, 8,400. Polymorphonuclear 65%. Small lymphocytes 22%. Large lymphocytes 8%. Eosinophiles 5%.

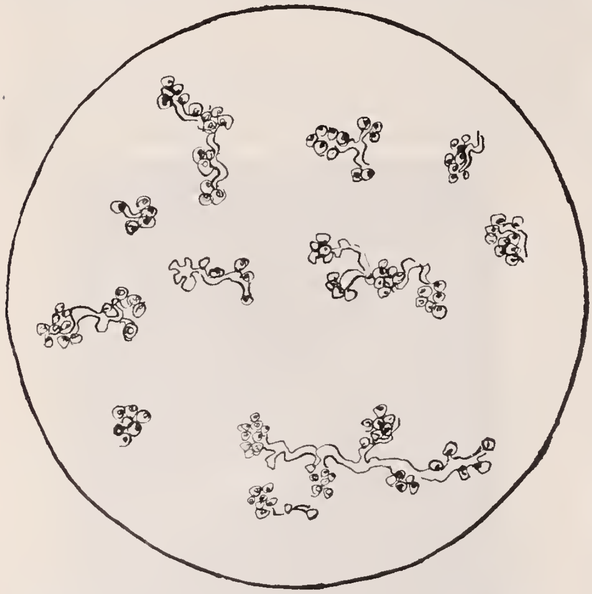

Fig. II.—Drawing of microscopical field; handing drop preparation from bouillon culture.

Bacteriological Examination

Direct smears made from the material obtained from the lesions revealed polymorphonuclear leucocytes, a few large epithelioid cells; no fungi or any other organisms found.

Some of the aspirated material was inoculated into Loeffler's blood serum, blood agar, and bouillon. On the sixth day there appeared small gray colonies; the colonies were surrounded at the periphery by hair-like projections. Within a day or two the colonies enlarged and assumed a leathery, wrinkled appearance. In bouillon the growth appeared in cotton-like flakes. Smears from the solid media showed a predominance of spores, with an occasional mycelium. Hanging drop preparation made from bouillon showed branching mycelia with ovoid spores attached. Fig. 2.

Sub cultures made on glucose agar revealed colonies within 48 hours. They were deeply pigmented. The organism resembled both morphologically and in cultural appearance the sporothrix described by DeBeurman (Sporotrichosis Brit. Med. Jour. 1912, 2,289) Schenck, Myer and Aird (Jour. of Inf. Dis. 1915 16, 399.)

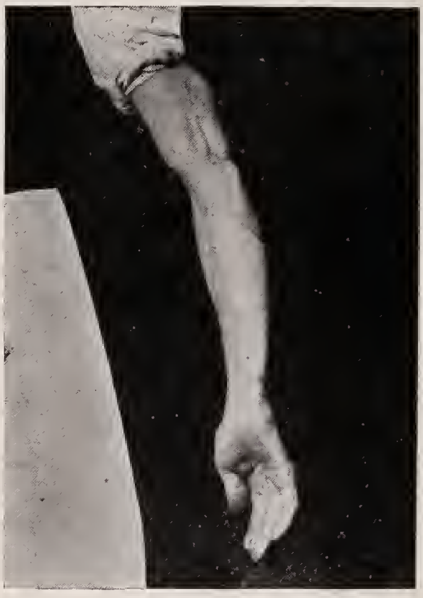

Fig. III.—Same as Fig. I., after treatment.

Treatment

The patient was placed, by Dr. Lindquist, on increased doses of potassium iodide, weekly injections of 3 gr. sod. cacodylate, and external applications of 1% copper sulphate. Within three weeks the lesions disappeared entirely as shown in Fig. 3.

In conclusion I wish to emphasize that indolent lesions of a nodular character that fail to yield to ordinary surgical treatment should be investigated bacteriologically in order to eliminate the presence of sporotrichosis.

Local Anaesthesia in the Treatment of Rectal and Anal Diseases.*

Louis E. Moon, M. D., Omaha.

The use of local anaesthesia, in the treatment of ano-rectal diseases, is not a new subject. But it is one which should receive more attention by the general medical profession. We are allowing our patients to pass from the hands of men who are doing the very best of surgery, into the hands of the quacks and advertising specialists, simply because these men are advertising to the public at large that they cure all rectal diseases without operation and without pain. To the laity this statement, "Without operation and without pain" conveys the idea that it is a method of treatment superior to that which they will receive in the surgeon's hands, and that it will not be necessary for them to go to a hospital and take an anaesthetic. So they are easily persuaded to place themselves at the charlatan's mercy. We, as the medical profession, know that a large percent of these patients are operated upon with the use of a local anaesthetic, and that they then go out boosting the advertisers as producing wonderful cures without operation. A great many of these operations are failures, and the patients came back to the surgeon for further treatment. This means a second operation, probably more complicated than the first, which should not have been necessary, had the patient been properly handled by the advising physician. We are neglecting our patients by allowing and in some cases unintentionally persuading them to go to the quack; by trying to force them to submit to a general anaesthetic for some minor ailment which requires but a few minutes work with a local anaesthetic. In many of the rectal diseases the pain and suffering is out of all proportion to the severity of the lesion, and it is in these cases that the charlatan seems to make such wonderful cures. It is not strange that a patient with a fissure should choose to go to the office of an advertising specialist, when he is told that he can be cured with one treatment, and that he will not have to stop work. He has seen his family physician, who has administered suppositores, and salves, and lotions, in many cases without making an examination, and he has been finally told that he must go to the hospital and have an operation. This means to the patient a period of confinement in bed, which will necessarily interfere with his business and social duties. He is sure that a general anaesthetic will make him feel much worse than his rectal ailment has at any time. There is no reason why the family physician should not operate upon such cases himself with local anaesthesia and the patient would then have the operation properly done and would not need, later, to submit to a second operation as a result of some error by the quack.

For these reasons, I contend, that the use of a local anaesthetic in the treatment of a ano-rectal diseases is one which should be considered more generally by all of us as we strive to give our patients better treatment. By explaining to our patients that their condition is one which requires an operation, but that it is such that it can be done by the use of a local anaesthetic, we will be able to hold a large number of those who would go to the quack. We know that from 70 to 80 percent of all ano-rectal diseases can be operated upon with local anaesthesia, a large part of them can be done in the office or in the home, while the longer and more complicated operations should only be attempted in a well equipped hospital. By doing the minor operations in the office, or the home, the patient is saved both time and the hospital expense, and the convalescent period is generally shortened.

Safety to the patient, should be the first thought when considering the choice of an anaesthetic. The drugs which are now being used in local anaesthesia are, practically speaking, non-toxic when used in the proper dilutions. In reviewing the report of the "Committee on the Advantages and Disadvantages of various local Anaesthetics," in nose and throat work it is shown that the reported deaths while using local anaesthesia, were due to over dosage, in most of the cases by using too concentrated solutions.

During the past twenty-five years, or since Schleich introduced the infiltration method of using cocaine, the medical profession has been interested in obtaining a drug which would produce a complete anaesthesia and not give rise to the many complications which did result from the use of cocaine. The first anaesthetics to be used were sprays and local applications. These at first seemed very satisfactory but they would not suffice for operations which were at all extensive. The sprays, of course, may still be used in opening abscesses but this is about the extent of their use. As the local applications are absorbed very slowly, if at all, their field of usefulness is also limited.

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*Read before the Missouri Valley Medical Society at Omaha, Sept. 6-7, 1920.

Among the anaesthetic solutions which have been and are being used at present are sterile water, ethyl chloride, quinine and urea hydrochloride, apothesine, beta eucaine hydro-chlorate and the lactate, alypin, stovaine, novocaine or procaine, and chloretone, as well as several others. The most popular of these today are procaine, apothesine, and quinine and urea hydrochloride. Each of these three is supposed to have some special advantage over the other. Procaine acts quickly in low dilutions. Apothesine is supposed to be less toxic but does not act as quickly nor is the effect as lasting as that of procaine. Quinine and urea hydrochloride gives a complete anaesthesia for several hours, according to the strength used, but has the disadvantage that it very frequently produces sloughing, more especially when used in the skin. In my work I prefer to use procaine as I have found that it gives a quicker and more complete anaesthesia, with less pain during injection, and I have had no serious complications following its use. With the procaine solution I always combine the adrenalin solution as it then gives a bloodless field while operating.

We have learned that anaesthesia is produced in part by the pressure of the solution in the tissues upon the nerve ends. Gant, of New York, demonstrated that a short local anaesthetic effect could be produced by injecting sterile water into the tissues. The objection to this is that the injection is quite painful, and as soon as an incision is made the pressure is relieved and the anaesthesia disappears. We have overcome this objection by adding a very small amount of some drug which acts for a short time upon the nerve itself and deadens the sense of pain. Instead of using 1 and 2 and 4 and 8 and 10 per cent solutions as was formerly done we are using .1 and .25 and .5 per cent solutions, without much regard to the quantity of solution injection. Some operators are using as much as a pint to a quart of these dilute solutions without any bad after effects. In using such large quantities of solution the chance of infection by injection is of course increased proportionately to the amount used, and for that reason I think it highly important that the surgeon should personally see that his solutions are accurately diluted, freshly prepared and properly sterilized.

Indications.

The principal indications for the use of a local anaesthetic are in diseased conditions of the heart, lungs, or kidneys, and in patients with severe anaemias, which may be secondary to the rectal condition, or may be primary in type. Local anaesthesia is likewise indicated in all cases of pulmonary tuberculosis, because of the tendency of an ether anaesthesia to lighten up a quiescent pulmonary lesion. The aged do not withstand general anaesthesia well, so it is especially indicated with them. As to the rectal operations, in which local anaesthesia is indicated, let us include the three types of hemorrhoids, (thrombotic, external and internal), fissures and ulcers of the anus, small peri-anal and marginal abscesses, superficial ischio-rectal abscesses, straight uncomplicated fistulae, hypertrophied papillae, infected crypts, small cysts and non-malignant peri-anal growths, and for the removal of small foreign bodies from within the rectum.

Local anaesthesia is contra-indicated in highly nervous individuals who will not cooperate, in children, and, as Zobel of San Francisco says, "people who act like children". There is also a contraindication to local anaesthesia in all cases where the diagnosis is in doubt; in cases requiring a laparotomy or some other operative procedure; in hemophilia, malignancy, syphilitic lesions, strictures, (which are probably 90 per cent syphilitic), in extensive prolapse of the rectum, in deep abscesses, and in all operations involving the upper rectum. Tuberculous abscesses may be drained but extensive operations on them should not be attempted.

The preparation for operation in these cases is not unlike that for any rectal operation excepting that the patient is allowed to take a light diet. I always advise giving morphine and atropine one hour previous to the time of the operation as the patient will be less apprehensive and will have less pain after the procaine ceases to act. One must always keep in mind the fact that the anaesthetic dulls only the sense of pain and that the touch sense and hearing and sight are unaffected. So all handling of tissues should be done gently and there should be no rattling and display of instruments.

It is quite generally conceded among American surgeons that the clamp and cautery operation is the most satisfactory for internal hemorrhoids, but it is not done very frequently with local anaesthesia. I have found this operation to be the one which gives me the most satisfactory results and am doing it under local anaesthesia. The greatest objection which has been offered against its use in a conscious patient is that the glowing cautery irons and searing of the tissues frightens the patient. In my work I use a small electro-cautery knife which the patient does not see and which is heated without noise. By placing moist sponges beneath the blades of the pile clamp, after it has been placed in position, you eliminate the conduction of heat to the buttock. You will find that very few of your patients will know that you have used a cautery. After you have obtained complete dilatation of the sphincters by infiltration the operative procedure is the same as with a general anaesthetic.

Lastly, I wish to emphasize the importance of the after care of rectal cases. Many good operations are made a failure by lack of attention following the operation. It is not enough to remove a bunch of piles, stick a rubber tube in the rectum and leave nature to do the rest. Instead of using a Pennington tube, which acts as an instrument of torture, I fill the rectum with an ointment with an anodyne incorporated. On each succeeding day until the wound is healed, I apply Unguentum Zinci Oxidi or some similar non-irritating ointment. The patient is then instructed to return at intervals, according to the operation, for inspection, dressings, and treatments. If the patient leaves the city, instructions are sent to his home physician, or he is instructed how to care for himself.

The aim of this paper has not been to advance new ideas, but to bring to your attention the fact that we are driving our rectal cases to the advertising specialist simply because we do not take advantage of the use of the local anaesthetic.

Medical Journals and the Campaign Against Cancer.*

Frank J. Osborne, Executive Secretary, The American Society for the Control of Cancer.

Rather a large order and one which should be neither adulterated nor short-weighted. The campaign against cancer is all that the name implies. It has been, and for years to come will be, a battle. A fight against gross ignorance and traditional fear and hopelessness on the part of the lay public and no small skirmish against a degree of lethargy existing even in the medical profession. However, we have been told that battles are lost in the same spirit in which they are won by real fighters and we must therefore maintain a hopeful and aggressive spirit in our efforts to overcome this, one of the most difficult of all medical problems, if we hope to make any eventual headway against it. It is true that our present day methods of treatment hold out very little hope in advanced or late cases of cancer; but it is equally true, that recognition of early symptoms and immediate competent treatment justifies a most sanguine attitude and really gives hope of ultimate successful treatment of the majority of cancerous and precancerous conditions. This is the message which the American Society for the Control of Cancer has attempted to propagate during the six years it has been in existence, and those who have been in a position to observe and who have kept careful records of progress claim that results are now beginning to manifest themselves; some stating that as high as 80% of successful cures could be obtained in certain areas, if the patients would but present themselves for treatment early.

Having its birth as this Society did, within the medical profession in response to a resolution adopted by the American Gynecological Society and endorsed by the Congress of American Physicians and Surgeons in 1913 it has enjoyed the closest cooperation from the organized Medical fraternity and its official journals. From the very first it was recognized that the medical publications of the country constituted one of the most powerful agents for the dissemination of cancer control information to the profession and it is a pleasure to be able to say that this cooperation has continued and advanced during the past years. Hardly a month goes by that some cancer paper or editorial does not appear in these journals, and it is worthy of note that even though the paper itself may make no mention of the national campaign being waged against this disease, the discussion which follows almost invariably brings it out and stresses the point that eventual success lies in impressing upon the public the necessity of prompt and intelligent action and upon the profession the necessity of equipping itself to render effective service in the way of diagnosis and treatment when the patient presents himself for advice. The latest evidence of cooperation between your journals and this Society was the way in which you made known to your readers the existence of the new handbook prepared especially for the medical profession setting forth the latest and most approved methods of handling this disease. The announcement which went forth in your columns resulted in innumerable requests for this booklet and has been a source of encouragement to the society and a full recompense for the time and energy devoted to its preparation.

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*Read before the Fifty-first Annual Meeting of the American Medical Editors' Association at New Orleans, April 27, 1920.

I should now like to be a little more explicit and attempt to indicate, with your indulgence, certain ways in which medical journals can greatly increase this valuable cooperation and be even more useful as a medium of suggestion and education to the medical profession and through it to the general public. The policy of the society has been, to have State Medical Societies appoint permanent cancer committees. During this six-year period twenty-one such societies have done so. Many of these committees however, flourished for only a short time after their formation and have now with a few notable exceptions either become inactive or have ceased to exist. In urging the appointment of these committees the society has always stressed permanency in office because of the fact that cancer is a disease which is constantly present in the population and one against which only continued efforts of education can make any impress. It is therefore felt that such committees should be composed of a few carefully selected men upon whom should be placed the duty of organizing and carrying out a thoroughgoing and persistent system of attack which could not be so well done if the personal of these committees was constantly changing. Having gone this far, however, the society is, by the very nature of the case, compelled to stop. These special cancer committees appointed in most cases merely at the suggestion of the society, are not of it, and not subject to outside dictation or even suggestion. But it is self evident that the editors of medical journals are in a position to greatly assist both this society and these committees. The readers of these journals always read with interest and due respect suggestions coming from the editorial desk. Such recommendations as might be editorially offered, would certainly receive far more consideration coming officially, than if they came from an organization such as the Cancer Society which at best would be non-official. Medical editors by taking an active interest in the organization of such cancer committees, could largely shape the make-up of such bodies. It would be simple to show why such committees should be permanent as to tenure and composed of men carefully selected for their prominence, interest, energy and sanity. The appointment of such cancer committees is a matter of no small moment and if the efforts of the members are to result in anything worth while in the cancer control campaign they should be most judiciously chosen. The whole success of such a movement often depends upon the character of the appointees on such committees.

Having shown your subscribers the way to organize such committees may I invite you to go one step further? It is a well known fact and one which simple observation in almost any direction will verify, that many committees, even though well chosen and organized, drop off into a state of coma or actually die of inanition. As a rule such committeemen to be really useful are busy men. They cannot be expected to devote a great deal of their valuable time to work even of this highly humanitarian nature. Medical editors might well consider themselves in the nature of Executive Secretaries. One of their normal functions is to stick pins into slumberers and to make first suggestions. It is often easier for any committee or organization to work a plan than to plan work. By virtue of his office the medical editor is in the best possible strategic position to sustain interest and get action. He is in the vanguard of the medical movement. He is in possession of all tried and proved methods of the public health and preventive medicine campaign. It is not new for him to outline programs of activities and with the added facility of presenting such program in an appealing and forceful manner results would be bound to follow. In this way he would take the burden of this fundamental work off the shoulders of the committee which would result not only in conserving their time and energy but in giving them the latest available information as to how to prosecute this particular educational campaign. It is realized that some committees are so blessed with specialized talent or led by a chairman os well equipped with organizing and campaigning ability that such service from medical editors would not be required. On the other hand it has been our experience that no matter how efficient and successful a committee may be, there will come a time when its activities will lag and its effectiveness begin to wane unless stimulated from some outside but closely cooperating and helpful agency.

While not assuming to have perfected any such program of activities for use by medical editors, it might not be amiss at this time to suggest a few of the more obvious lines of attack in order to block out roughly the scope of work with which such a committee might properly interest itself. Its first attention should of course be directed to the official medical organizations in its state and in view of the fact that education of the profession should go hand in hand with that of the public, we would place equal emphasis upon both phases of the subject. In order to indicate how this end may be attained, I would call attention to two activities recently carried out by cancer committees of State Medical Societies. In Massachusetts, by cooperating with the State Department of Health, the Medical Society secured the distribution of the new handbook for the profession entitled "What We Know About Cancer." This is a most fundamental piece of professional education. The booklet is brief, readable, authoritative and suggestive. To have placed it in the hands of each medical man in this state is a distinct service and one which is most heartily appreciated by the Cancer Control Society, and will no doubt go far in our educational campaign. As a parallel to this educational work in the profession the Cancer Committee of the Ohio State Medical Association has just conducted a "Cancer Week" throughout that state. As a preliminary to this campaign a series of meetings was held among County Medical Societies and Academies of Medicine on the subject of cancer. The state was then divided into eleven districts each with a supervisor to manage the details of the campaign. A large number of qualified medical men were appointed as lecturers to address lay audiences and two hundred and fifty of the lecture outlines prepared by the National Society were provided in order that these lecturers might present the subject in a uniform manner. The "week" was started with a "cancer Sunday" on which the subject was briefly presented from the pulpits in the various churches and during the ensuing seven days the speakers addressed groups of women's clubs, welfare organizations, chambers of commerce, rotary clubs, and others. These are concrete instances indicating how well such cancer committees can function when properly guided. The chairmen of these committees are to be congratulated for their efficiency and it is hoped that they will continue the work so well begun. Another useful suggestion would be that each local medical organization whether a county society or academy of medicine be urged to devote at least one meeting each year for its own members to a discussion of cancer and hold at least one public meeting on the same subject annually.

Somewhat removed from the medical organization group but still intimately connected with it are hospitals and dispensaries; and nursing organizations and training schools. Posters and placards on cancer should be prepared for bulletin board display in these institutions and every effort should be made through medical staffs or hospital superintendents to include cancer control in the lecture course for pupil nurses. All such schools should be supplied with special literature prepared for nurses; and nurses' associations both state and local, should be encouraged to provide speakers on the subject at their various meetings. Red Cross and all Public Health nurses as well as industrial nurses should be supplied with the same information through lectures and pamphlets.

Another suggestion which medical editors might bring to the attention of chairmen of cancer committees is to interest the members in bringing the latest supplementary cancer control information to students in medical schools and colleges. Special stress should be laid upon giving due attention to instruction of students in the recognition of precancerous conditions. Our present day knowledge indicates that the best hope of preventing cancer is to inform the public of the predisposing danger signals and to educate the profession to recognize them as such. If it be true that our best hope of controlling this disease lies in acquainting the younger generation with these facts, it is equally true that complete success implies that no medical man should enter upon the practice of his profession without a thorough knowledge of all diagnostic procedures.

Three other agencies whose major interest is strictly professional are Public Health Associations, Health Centers, and Industrial Physicians and Surgeons. All these groups are doing most valuable preventive medicine work. Each is brought in intimate contact with numberless people who require instruction and no cancer committee can do a thorough job of professional education on the subject of cancer without enlisting the cooperation of these groups.

After having completed this part of the program which has to do specially with work through professional or quasi-professional bodies, (or rather while keeping step with this part of the program as was done in Ohio,) the committee should include in its activities further educational work with groups of lay or non-professional organizations. A suggestive campaign of this nature has just been completed by the Colorado State Committee for the Control of Cancer. During the last few weeks of 1919 the Committee's lecturers delivered twenty-two talks on the subject of cancer control which were heard by about 4,000 individuals. Aside from one before the State Medical Society and another to hospital nurses the following audiences were addressed which shows the diversity of the public reached: The State Federation of Women's clubs, employees of five department stores, employees of three industrial concerns (one a group of 1300 miners), the State Educational Association, State Librarians' Association, and State Congress of Social Workers; a Ladies' Aid Society, one church congregation, and a Parents' Association in a high school. This indicates the types of audiences which may be addressed to advantage upon this subject and when we add to them, chambers of commerce, manufacturers and merchants' associations, trades councils and unions, ministerial and other clerical groups, fraternal orders, Y. M. and Y. W. C. A.'s, civic and study clubs, all of which have been used from time to time as mediums through which to disseminate the hopeful message of cancer control, we begin to grasp something of the immensity of the work before us and to appreciate that the word "campaign" is most aptly chosen.

I have left for the last the consideration of one of the most important if not the most important and useful of all cooperating agencies through which such a cancer committee can operate. I refer to the public health departments, state and local. Having been a health officer myself, I am cognizant of the misunderstandings which sometimes exist between the organized profession and these official departments. This is not the place or the time to even sketch the underlying causes of this unfortunate situation. It is enough at this time to state that in the fight against cancer the state medical societies and state and local boards of health should work together as a unit. With the prestige and funds which well organized and well supported health departments can command, no chance for cooperating with them should be lost. Through their regular publications, exhibit and lecture bureaus as well as through their nursing staffs, demonstration clinics, health centres, etc., a unique opportunity is offered for the most effective kind of team work. It is not difficult to show to boards of health the desirability of such cooperation when the possibility of cutting down the death rate from this disease through intensive educational methods is properly presented.

One last word, and that, one in which I am sure the editors of medical journals will entirely concur. In making suggestions for carrying out a program of activities, particular stress should be laid upon the desirability of free use of printer's ink. After all it is the general public that the majority of meetings are designed to reach. Success in the control of this disease can be said to be in direct proportion to the number of persons who have been persuaded by the dissemination of information to give immediate attention to suspicious symptoms. The medical man is the one who must prepare and deliver the facts, for only he has them. He should then be assured the widest possible hearing and his audience can be increased many fold by a well organized and smooth working press bureau which will see that his address is digested and reprinted in the public press. Where one hears the lecture hundreds read the papers. If the information is valuable for people to hear it is equally valuable for others to read. A sub-committee on publicity is, therefore most essential.

I will now leave this matter for your consideration, feeling sure from the experience of the society in the past that this additional assistance on the part of medical editors will strengthen the bond of cooperation existing between your association and that which I represent. As an example, I may cite the splendid results of propaganda publications prepared and distributed for popular use by the American Medical Association some of them in cooperation with our society. I appreciate that for medical editors to take up this work means a new line of endeavor, and I recognize the difficulty of taking the first step in a new venture. However, I can assure you that if entered into with the spirit which the importance of the service merits there is no one thing which medical journals could undertake which would so far advance the campaign for the control of this disease. You may feel sure that the American Society for the Control of Cancer is most anxious to assist in any way in which it may be privileged to do so.

Better Babies Department

The better babies department at the state fair this year, was more largely attended and the babies themselves scored higher than in previous years.

About two years ago a new building was constructed to take care of this portion of the work. Already it seems quite necessary to enlarge these quarters.

Three days were given over to scoring and examining approximately two hundred babies; it being the endeavor of those having the work in charge, to instruct the mother in the care of her child and in the prevention of the various nutritional disturbances peculiar to children.

Each child was examined by physicians and dentists, each a specialist in his particular work, and medical advice was given where needed. The fourth day was taken up with the examination of the defective children. This included an examination of the blood, cerebro-spinal fluid and an X-ray when necessary.

On the fifth day the prizes were awarded. It was a source of gratification to all the workers to see the crowds overflowing the hall, almost equalling those gathered around the prize stock at the live-stock exhibit. Mrs. A. B. Gadd presided at this meeting. Dr. Floyd Clarke gave a short address and presented the prizes.

A great deal of credit for the success and growth of this work is due to Mrs. A. B. Gadd, the efficient superintendent in charge and the corps of women who assist her.

The examining doctors this year were:

Dr. H. B. Lowery, Lincoln; Dr. W. O. Colburn, Lincoln; Dr. Fredrick Teal, Lincoln; Dr. Jas. Woodward, Lincoln; Dr. J. R. Davis, Lincoln; Dr. Daisy Hanson, Lincoln; Dr. H. E. Flansburg, Lincoln; Dr. J. J. Hompes, Lincoln; Dr. George W. Covey, Lincoln; Dr. Harry Everett, Lincoln; Dr. H. W. Orr, Lincoln; Dr. Roscoe Smith, Lincoln; Dr. Floyd Clarke, Omaha; Dr. H. M. McClanahan, Omaha; Dr. Wm. L. Shearer, Omaha; Dr. Ada Platz, Beatrice; Dr. Rachel Cooper, Aurora.

The Toilet of The Nose.

Blowing the nose is not always successful in clearing away the whole of the dust and dirt that has become adherent to the mucous membrane; washing it internally with tepid water certainly ensures this and is not a difficult or unpleasant thing. In addition to the mechanical flushing effect of washing, a stimulant of the natural secretion of the nose is caused by the water, the two things together resulting in a thorough cleansing of the passages and of those important sinuses opening into them. The benefits of a hearty sneeze are well-known and are readily explicable by those who understand the anatomy of the nose. Anyone who cares to try will find similar and probably greater benefits from washing the nose internally. If children were encouraged to practice it, once daily at least, they would benefit by it in a good many ways.

BOOKS RECEIVED.

Bacteriology for Nurses. By Harry W. Carey, A. B., M. D., Cloth. Second revised edition. Price $1.25 net. Pp. 149. Philadelphia: F. A. Davis Co. 1920.

Short Talks on Personal and Community Health. By Louis Lehrfeld, A. M., M. D. Cloth. Price $2 net. Pp. 271. Philadelphia: F. A. Davis Co. 1920.

Refraction and Motility of the Eye. By Ellice M. Alger, M. D., F. A. C. S. Cloth. Second revised edition. Price $2.50 net. Pp. 394 with illustrations. Philadelphia: F. A. Davis Co. 1920.

Practical Massage and Corrective Exercises. By Hartvig Nissen. Cloth. Fourth Edition. Price $2. Pp. 225 with illustrations. Philadelphia: F. A. Davis Co. 1920.

Practical Dietetics with Reference to Diet in Health and Disease. By Alida Frances Pattee. Cloth. Thirteenth edition revised. Price $2.25. Pp. 543. Mount Vernon, New York: A. F. Pattee. 1920.

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JOSEPH MELANCHTON AIKIN.

A wise physician, a true man, and a devoted friend has gone to his rest. He was born in Bellefontaine, Ohio, July 18, 1857. He had the advantages of a common school education. In his seventeenth year his parents moved to Clarinda, Iowa, where the doctor completed the course in the high school. One of his teachers, Prof. J. A. Woods, is still living in Clarinda and has written stating that Dr. Aikin was an excellent and exemplary pupil. He taught school one winter and then entered the Medical Department of the Iowa State University. During his medical course he spent nearly a year as second assistant physician in the State Insane Asylum at Mount Pleasant, Iowa. After graduating in the spring of 1887, he was appointed first assistant physician at the Insane Asylum at Clarinda under the supervision of Dr. Max Witte, where he remained until Nov. 1888; when he came to Omaha, officing in the Brown Block with Dr. J. C. Moore. During the first few years the Doctor did some general practice in order to maintain himself, but his natural tendency was to nervous and mental diseases.

He was married to Miss Martha Leonard of Cedar Rapids, Iowa on June 20, 1893. There was born to this union a daughter, Gertrude, now the wife of Willard C. Slabaugh. The Doctor's home life was ideal. Dr. Aikin was always a frail man, but his excellent habits with the constant care of his estimable wife, enabled him to carry on his work. Those of us who have been privileged to cross the threshold of his home know the tender affection that existed there. The Doctor derived much comfort from his grand-children.

For some years Dr. Aikin had suffered from acute attacks of indigestion. In February 1919 he underwent an operation for pyloric stenosis. He recovered from this and enjoyed better health than for some years until within a few weeks of his death. After consulting with medical advisers a second operation offered the only possible hope of prolonging life. He bravely submitted. He rallied for a few days and his friends felt hopeful. Two days before his death, however, serious symptoms arose and it was realized that the end was near. He died Nov. 18th at the Methodist Hospital.

For more than 20 years the Doctor's practice was limited to nervous and mental diseases. He was Professor of Diseases of the Nervous System first in the Creighton Medical College and later in the Medical Department of the University of Nebraska, resigning from the latter institution three years ago. He was a skillful neurologist, and had attained more than a local reputation. He had a genius for unraveling the tangled threads of the life of his patients and readjusting their lives to a more normal and happy condition. The writer has been privileged to see letters from a number of his former patients expressing their appreciation of his skill as a physician and gratitude for what he had accomplished in establishing their mental equilibrium. He was frequently called as an expert alienist in medico-legal controversies and commanded the respect of attorneys, judge, and jury, because of his evident skill and integrity.

Dr. Aikin was appointed Secretary of the Nebraska State Medical Association by the then President, Dr. Nesbit, in 1911 to fill the vacancy caused by the death of Dr. Wilkinson. At the next annual meeting he was regularly elected and reelected secretary until his death. His work in that office will be more fully appreciated now that he has gone. He gave to this office his time daily and liberally. He carefully looked after the minutest detail. His work was methodical as the files and records of his office will verify. His work as treasurer also entailed additional work. In 1918 he was appointed editor of the Nebraska State Medical Journal. To this work he gave additional time and thought. He sought advice from editors of large ex-

JOSEPH MELANCHTON AIKIN, 1857-1920

perience, in other parts of the country. Indeed, he was a man always willing to listen to advice. The highest compliment that can be paid to him as editor and secretary-treasurer is the statement of the Committee that "It will be, indeed, hard to fill his place." For the last three years the Doctor had been a member of the House of Delegates of the A. M. A. from this state. He acted upon important committees of the House, and commanded the respect of the other delegates.

Dr. Aikin was a man of deep religious convictions, a member and an officer of the First Presbyterian Church. His life was a model. He was entirely free from all small vices and habits. His convictions were a part of his every day life. He lived what he believed. He was not obtrusive in expressing his beliefs, but ever willing to stand up for his convictions. Those of his friends who were privileged to be with him the last hours of his life will bear testimony that he maintained his belief to the end; that his concern was not for himself but for those he was leaving. He gave advice to others. He met death like a hero. His life may well be emulated by those who knew him. His influence will live in the minds and the hearts of all who came into intimate relationship with him. His funeral—held at his home Saturday, Nov. 20th—was largely attended by members of the medical profession and other friends who echoed the sentiment of his Pastor whom he called "The beloved physician." H. M. M.

The Cancer Problem.

During our late war with Germany we lost fifty thousand men as a direct result of battle and disease incident to the war.

The cost in dollars totalled an enormous amount and the suffering resulting from this loss of life is still keenly felt all over the country.

This represents however only half the life loss and economic loss that we sustain every year in another war in which the best men and the best women of our country are killed to the number of one hundred thousand every year. I refer to our ever present war with cancer.

Cancer kills mostly middle aged men and women. The man who is mature; who is at the beginning of his best earning period and at the time when he is able to give his best services to humanity. The woman victim of cancer is usually the woman with a family and the result of the mother's death is usually to cast a little group of orphans on the charities of the community or into the hands of relatives who often exploit the labor of the children, the result being children defective both mentally and physically.

The sad part of the whole thing is that at least 80% of these cancer deaths are preventable, and these people die only as a result of their ignorance and the ignorance of their medical advisers. The early stages of cancer and pre-cancerous conditions are now so well known that the information ought not only to be in the hands of medical men but also in the hands of the laity. It ought to be a matter of general knowledge that any sore that does not heal in three months is pretty sure to be syphilis, cancer or a pre-cancerous condition; that moles that grow or scab or bleed are pretty sure to be the first stage of melanoma, the most malignant form of cancer; that any sore mouth or sore throat, or lump growing in these locations or in the nasal cavity may be malignant, if it does not heal or disappear within a reasonable time, any lump or growth anywhere in the body no matter how long it has persisted may at any time take on malignancy, that cancer of the uterus is the result of neglect at childbirth, injuries to the cervix not being repaired, and cancer of the stomach is usually preceded by a long period of invalidism in which proper treatment might head off the development of the disease.

A campaign of education along this line is proposed by the committee on cancer of the State Medical Association. This committee has during the last two years sent out letters on this subject to secretaries of county societies and several addresses on the subject have been given to medical bodies. The committee now expects to carry the work to the lay organizations in the manner suggested by Mr. Osborne in an article printed elsewhere in this Journal. It is hoped that medical men who are interested in furthering this work will volunteer assistance.

—D. T. Q.

Two Needed Institutions: An Epileptic Colony and a Home for the Aged.

Press reports indicate a disposition on the part of those connected with the management and care of the hospitals for the insane to ask the incoming legislature to provide a separate institution for epileptics. This matter has been under consideration by alienists and others for some years and will have the support of the entire medical fraternity and should have the united support of the taxpayers of the state. Under existing conditions the only institution to which an epileptic needing care may be admitted is to one of the hospitals for the insane. Most epileptics are not insane as we ordinarily understand that term, but many have short periods of confusion and delirium following the epileptic fit. Many are quite capable of self-support and they should be given the opportunity under organized supervision. Approximately three hundred epileptics are inmates of the three hospitals for the insane, and it is reasonable to suppose that at least an equal number of epileptics are in the care of their immediate relatives, many of whom could be better cared for in an institution such as is proposed. Eleven states: Massachusetts, Connecticutt, New York, New Jersey, Pennsylvania, Ohio, Indiana, Michigan, Iowa, Kansas, and Texas have colonies for epileptics with an average population of five hundred. All have been developed within comparatively recent years, and the practical success of the movement is undoubted. Let us have a colony for epileptics.

A Home for the Aged and Infirm is also a crying need in Nebraska. The condition of those aged persons in mental as well as in physical decadence must call forth our utmost sympathy. Every community has cases of this kind that cannot be well cared for at home for various reasons, and Commissions of Insanity are frequently invoked to pass on such persons with a view to committment to hospitals for the insane. A hospital for the insane is not a suitable place for the care of these unfortunates, but conditions surrounding the family life of these persons are often such, that for want of a more suitable place a considerable number become inmates of institutions for the insane.

The A. M. A. Increases Dues.

At a special meeting of the House of Delegates of the American Medical Association, Chicago, Nov. 11th, the annual fellowship dues were increased from five to six dollars. This increase was made necessary as explained at the meeting, by the greatly increased cost of material and labor in the printing trade. Dr. Leroy Crummer, delegate, represented the Nebraska State Medical Association at the meeting.

CORRESPONDENCE

My Dear Editor:

Your October issue contained an article on the Wassermann test by A. A. J. whose views are not entirely in accord with mine therefore the following:

Too much importance cannot be given to a positive Wassermann reaction in the diagnosis of syphilis. A strong positive may be the only evidence available at the time to apprise the clinician of syphilis. Too often we are unable to obtain any history pertaining to syphilis. This may or may not be intentional on the part of the patient.

Well authenticated cases of syphilis d'emblee (those with no evidence or history of initial lesion) such as have been reported, should spur the clinician toward the more routine use of the Wassermann test for diagnostic purposes. However, he should be mindful that a negative reaction does not exclude syphilis but rather indicates the necessity for a more thorough examination and further blood tests (a positive blood may be rendered temporarily negative by various means.)

Advantage should be taken of every opportunity to make a diagnosis in the primary stage, therefore follow Hazen's rule: "Be quick to suspect syphilis: be slow to diagnose syphilis." If such advice were followed there would be fewer patients "not seen until the late stages of the disease." Efficiency and education will aid in getting patients in proper hands.

The early importance of adequate treatment(as A. A. J. infers) cannot be too strongly emphasized but as a standard of treatment especially in the hands of the unskilled, the Wassermann test is apt to be very misleading and may even be detrimental, due to treatment being let up or discontinued entirely.

No syphilologist would think of discharging a case of lues upon the appearance of a negative Wassermann reaction following a few treatments though some physicians have entertained such a procedure.

While the Wassermann test may be a valuable aid to the expert during treatment, much additional data and experience should be obtained before treatment can be standardized by this test, if ever.

The necessity for the earliest possible diagnosis, also prompt and adequate treatment is of course paramount. P. H. B.

Dear Editor:

Possibly you are already advised of the fact that the most important business to be taken up at the next meeting of the State Bar Association, December 27th and 28th, is the question of the incorporation of that association. It seems to be certain that this will be done. It might be pleasing to the Medical Profession to know that they were in advance of the lawyers in this regard. H. A. B.

GENERAL NOTES

The St. Louis University, the oldest seat of learning west of the Mississippi River, has for the first time in its more than a century of endeavor made a public appeal for funds, the larger portion of which is to be applied to the support of the Colleges of Medicine and Dentistry. The University has asked its alumni and friends to raise the sum of $3,000,000 as a Centennial Endowment Fund, in commemoration of the 100th anniversary of the founding of the institution.

SOCIETY NOTES

The Kimball County Medical Society held its annual meeting on October 22nd and elected the following officers for 1921: President, Dr. E. L. Rolph of Kimball and Secretary-Treasurer, Dr. A. L. Miller of Bushnell. Dr. Rolph presented an interesting paper on "Goat's Milk and its Value in Infant Feeding." Meetings are planned for every month.

At the annual meeting of the Thayer County Medical Society the following officers were elected for 1921; President, Dr. C. C. Snowden of Davenport; Vice-president, Dr. A. Herney, Deshler; and Secretary-treasurer, Dr. R. F. Decker, Byron. The quarterly meeting of the society was held on Nov. 4th at Davenport with thirteen physicians present. After a dinner served by the wives of the local physicians, papers were read by Drs. F. G. Armstrong, Hebron; I. O. Church, Belvidere and E. A. Bowles, Hebron.

The fourteenth annual meeting of the Fifth Councilor District Medical Society was held on Nov. 3rd at Fremont, with Dr. Morris Nielsen, councilor, in charge. A large number of physicians attended, and an interesting program was given.

The semi-annual meeting of the Northwestern Nebraska District Medical Association was held at Atkinson, Neb., on November 4th.

The Cedar-Dixon-Dakota-Thurston-Wayne Medical Society held a meeting on November 9th at Pender. The subject of the evening was Thyroid Glands.

The Republican Valley Medical Society met at Holdrege, Neb., on October 28th. A large attendance was reported.

ABOUT THE DOCTOR.

Dr. F. X. Rudloff of Norfolk, has located at Battle Creek.

Dr. Louis Smernhoff, has opened a private hospital in Silver Creek.

Dr. C. S. McKee, Geneva, is converting his residence into a hospital.

The Presbyterian Hospital, 1240 South Tenth St., Omaha, was purchased by Dr. Karl Connell.

Dr. F. H. McCabe of Cambridge, who contracted blood poisoning from a pin scratch, is improving.

Dr. D. C. Ross until recently a practicing physician at Potter, has gone into the "oil game," in Wyoming.

Dr. A. M. Faught, Scottsbluff, has been appointed chief surgeon for the Great Western Sugar factory.

Dr. W. C. Keetel formerly of Lyons, more recently of California, has returned to Lyons and opened an office.

A joint meeting of physicians and dentists was held at Holdrege, Oct. 28th. Rather a desirable combination.

Dr. P. J. Hermsen of Laurel has located at Verdigre, and has rented the office formerly occupied by Dr. Newman.

Dr. Floyd Murray has finished his interneship at the Methodist Hospital and is located at 40th and Cuming Sts., Omaha.

Dr. Alfred Lewis, a pioneer physician of Valentine, has gone to San Diego for the winter, and is likely to remain there.

A fund directed toward the maintenance of the Taylor E. Lewis Hospital, Superior, is being raised by the local Farmers Union.

By an explosion of a water heater in the basement, the Morrow Hospital at Seward was badly wrecked Oct. 25th. No patients were injured.

In the District Court of Brown County, P. R. Carpenter, "Napropath" was found guilty last month of practicing medicine without a license.

With the visit of Bishop Stuntz at Scottbluff, it is thought progress has been made toward the proposed Methodist hospital at Scottsbluff.

Dr. W. L. Albin of Lincoln has returned from a year's postgraduate work in New York. He limits his practice to eye, ear, nose and throat work.

Major H. L. Wells, M. C., whose home is at West Point, and who has been stationed at Boise Barracks, Ida., has been transferred to Fort Bayard, N. M.

With commendable foresight the American Legion is making a survey of the government hospitals of Nebraska looking toward better care for disabled veterans.

Dr. H. L. Finley, medical missionary of Assuit, Egypt, for the past fourteen years, has been visiting friends at Pawnee City of which place he was at one time a resident.

At least two doctors will represent the medical profession in the lower house of the legislature—Dr. George W. Reneker, Falls City and Dr. Fred Hoffmeister, Imperial.

Dr. L. R. Jones, son of Judge J. M. Jones, of Mitchell, recently located at Ft. Laramie, has been appointed to the Public Health Service with the rank of major, and assigned to tuberculosis work in the southwest.

The Sabetha Hospital, Sabetha, Kan., owned and conducted for many years by Drs. Samuel Murdock, senior and junior, has been given to the Sisterhood of St. Joseph. The sisters assumed control Nov. 1st. At a conservative estimate the property is worth above $100,000.

Upon Dr. Henry B. Ward, formerly Dean of the Nebraska University School of Medicine, now professor of Zoology at the University of Illinois, was conferred the honorary degree of Doctor of Science by the University of Cincinnati on the occasion of the centennial anniversary of its medical college.

Under a rule of the governing board that on attaining the age of sixty-five the chief surgeon should resign, Dr. W. L. Estes, Sr., of St. Luke's Hospital South Bethlehem, Pa., recently tendered his resignation after 37 years of continuous service, and promptly accepted the operating surgeonship of the new Bethlehem Hospital just completed. Dr. Estes is widely known among surgeons and as an author.

DEATHS.

Dr. E. W. Cook, Medical Director of the Modern Woodmen of America, died at Rock Island, Ill., October 14th. Dr. Cook was a practitioner at Plattsmouth for about twenty years and until appointed to the Board of Supreme Directors of the Woodmen, when he moved to Rock Island. He was 63 years of age.

Dr. George W. Brandon, of Colorado Springs, died October 31st, aged 73 years, and was buried at Milford, Neb.

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Vol. V. Norfolk, Nebraska, January, 1920. No. 1.

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The downward course of a patient can usually be promptly checked, but the education and cooperation of the patient is necessary. An ever-increasing number of physicians and clinics are seeing to it that every patient has, or gets, a copy of this manual. Prescribe it.

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From the wealth of new material we would single out particularly those sections dealing with Anaphylaxis, Phagedena, the Sarcoids, the Gangrenes, the Cutaneous Atrophies, Inguinal Epidermophytosis and the Dermatomycoses. The review of the general interpretation of Tuberculosis, Congenital Syphilis and the Xanthomata has been notably modified; much new matter has been injected on the Dyskeratoses, Cutaneous Diphtheria, the Leishmanioses, the Cutaneous Leukemias, the Tophi of Gout and on the Serodiagnosis of Syphilis and treatment with the Arsenobenzols. The third part of the book—Therapeutic Notes—has been rewritten in an endeavor to make them still more practical and to emphasize recommendations dictated by personal experience as to the choice of medication and the errors to be avoided.

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